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**Exploring college students' motivational beliefs  
in ability-grouped English classes in Taiwan**

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**A Thesis Submitted for the Degree of Doctorate of Education**

**School of Education**

**Durham University**

**2015**

## **Abstract**

According to research on social-cognitive theory, motivation can be defined as a way of belief in one's own competence, to value the task and further to achieve the set goals. Researchers have suggested a direct link between motivation beliefs and student achievement. In order to understand whether the motivation beliefs of students would be different in an EFL ability grouping context, this study examined an integrated motivation model including instrumentality, achievement goal, self-efficacy, expectancy-value, attribution, and self-regulation amongst three different ability groups at one university in Taiwan.

Participants were grouped in three different level based on their pre-test scores: advanced level group, higher-intermediate level group and intermediate level group. Their academic achievements were demonstrated comparing their attitude towards ability grouping with their perception of the motivation variables. The purpose of this research is to discover whether ability grouping setting is beneficial for both student motivation and performance in EFL classes.

In a survey study, 681 college students in a first-year undergraduate English course completed a motivation questionnaire. The results of this study revealed that student instrumentality, achievement goal, expectancy-value, self-efficacy and self-regulation are significantly positively correlated with their attitudes in an ability grouping context. Linear regression analyses demonstrate that expectancy-value was the strongest predictor of students' post-test scores, and there are other predictors such as student level and their perception of attributions. However, self-efficacy, performance goals, and self-regulation were not significant predictors to student academic performance in the integrated model.

In addition, the study revealed a preference of mastery goals for students in higher ability groups and a preference of attributions for lower-achieving group. However, there were no differences in instrumentality, performance goals, and self-regulation amongst the three ability groups, suggesting that students at ability grouping classes are no difference in the motivational belief of instrumental goal, performance goals and self-regulation. By contrast, there were differences in student motivation in attitudes, instrumentality, expectancy-value, mastery goal, self-efficacy and mastery goals in an ability grouping class. Consequently, the findings suggest teachers should be encouraged to create an environment where developing student motivation is encouraged in order to develop further the achievement rate within the confines of an EFL ability grouping class.

### **Acknowledgments**

I would like to give thanks to my supervisors, Dr. Richard Remedios and Dr. Julie Rattray not just for the remarkable guidance but also for the continuous support in this long-process of thesis writing. Not just being excellent supervisors in the field of motivation, you are also good at motivating students in the way of thesis writing. This thesis could not have been accomplished without your advice, encourage and understanding. Also, I would like to thanks all my friends, colleagues, and students for your support and encouragement during this time. Finally, I would like to dedicate this research to my parents, who always express their unconditional love and support to me all the way in this doctoral study. To my beloved husband, Kevin and my two cute little girls, Ashley and Alesha, without your love this thesis and so much more would not have been possible.

### **Declaration**

Material contained in the thesis has not been submitted previously for a degree in this or any other institution.

### **Statement of Copyright**

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## **List of Acronyms**

ANOVA	One-way Analysis of Variance
ATFA	Attribution of failure
ATSU	Attribution of success
AMTB	the Attitude/Motivation Test Battery
CDS	The Casual Dimensional Scale
EFL	English as foreign language
EXVA	Expectancy-value
INS	Instrumentality
L2	Second language
MAAV	Mastery Avoidance
MSLQ	Motivated Strategies for Learning Questionnaire
PAG	Perception of ability grouping
PEAP	Performance Approach
SEEF	Self-efficacy
SRQ	Self-regulation questionnaire
TOEFL	Test of English as a Foreign Language

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 The Focus of the study**

There have been several studies of language learning using social-cognitive theories that support the idea that certain motivations are highly predictive of the learning outcomes and academic performance. By integrating different motivational constructs, this study aims to examine the motivation of college students in Taiwan in ability-grouped classes, studying foreign language learning with varying levels of English ability, ability and attitudes towards learning. Furthermore, the study will investigate correlations between student motivational variables and academic outcomes. The implications for classroom practice will be discussed.

#### **1.2 Contextual Background of the Study**

##### **1.2.1 A brief description of English education in the curriculum in Taiwan**

With the influences ranging from immigration change as well as prior colonial rule, Taiwan has been divided into various ethnic groups and continues to be the site of linguistic struggles. Accordingly, Taiwanese people rarely speak other languages, but they learn them at school. From 1949, due to political reasons, English was taught as the primary foreign language in the junior and senior high school curriculum. From that point onwards, all secondary school students have been offered English as their first and only foreign language. From the 1950s onwards, the manufacturing industry expanded rapidly which started to transform Taiwan into the globalised country it is today and an international export centre that further created the necessity of learning a foreign language. This growth in the economy created a demand for people with the ability to speak foreign languages. In accordance with their perceived economic power, certain languages seem to be more valued, for instance, English. As Dornyei *et al.* (2006) stressed 'language globalisation has become part of the linguistic

landscape and most scholars reacting on the future fate of English position of English as a global language is becoming stronger' (p. 8).

The main foreign language for the past half century in the curriculum in Taiwan has been English, and it has been the only foreign language subject in the national high-stakes testing for the past few decades. The Taiwanese government has had major concerns about improving its national proficiency in English compared to other neighbouring countries in Asia (Graddol, 2006: 95). Therefore, the Taiwanese government proposed Challenge 2008: National Development Plan in an effort to enhance Taiwan's globalization and to further improve the nation's competition (Executive Yuan, 2003). In order to be a competitive country to face the trend of globalization, the concept of cultivating talent such as the enhancement of government employee's English proficiency and the internalisation of college education are the main focuses in this national development plan. Given that reason, scholars believed that sufficient English proficiency will lead Taiwanese society, economics and knowledge to a higher level. Thus motivation to master English for Taiwanese students was to seek better job opportunities in the future and mastering English would appear to be a method by which they could improve their economic status. (Improving National's English Skill, 2002). In addition, the Taiwanese government intended to pass a bill to make English a semi-official language in Taiwan, thus recognising English as one of the focal subjects in the school curriculum (Executive Yuan, 2003).

Since 1968 English has been a compulsory subject within the school curriculum in Taiwan whereupon it has been expanded from primary education to the secondary education. As English has been one of the target subjects in the national curriculum, students are required to take the English curriculum under the education system starting from national primary school, continuing through junior high school and senior high school. The government introduced English language into the fifth grade curriculum in 2001 and subsequently announced that students at third grade were required to take an English course in the year 2005 (MOE, 2003). The focus on English education is not new, but it has recently gained considerable attention in

national curriculum, which reflects on class hours. The teaching hours for English courses in educational phases are different depending on the school resources. In general, primary school pupils are requested to take one 40-minutes session of English class every week whilst students at secondary education are requested to take a four hour weekly English class during the academic year (Taiwan Ministry of Education, 2010/2011).

As previously mentioned, English is one of the major subjects in national high-stakes testing, such as high school entry examinations and college entry examinations. Furthermore, the Ministry of Education in Taiwan as well as universities have implemented a graduation requirement for English proficiency since 2003 in order to meet ‘the anticipated needs of both domestic and international job markets’ (Pan and Newfield, 2012). To date, English has been the only foreign language required and one focal subject in the school curriculum and national tests. However, the curriculum has changed and these major language tests reflect the certain conflicts between how English is taught in classroom and how English is required in the workplace or in the reality. It has been widely understood that successful test good results on the tests or good performance in the classroom did not necessarily correlated with real world application. Thus students are highly motivated to learn English not just for improving their own language proficiency skills at school but there is also a pressure to enhance their language skills for future employability.

### **1.2.2 English language in the college curriculum**

After a 9-year period of compulsory primary schooling and a 3-year period of secondary schooling, students have already attained more than ten years of experience of English language lessons. Nevertheless, in their tertiary education, they are still required to study a minimum of a two to four credit freshman general English course in the first year of college depending on the policy of different universities. Freshman English course at first were considered as the extension of high school English, which focused more on the receptive skills, such as listening and reading (Chang, 2005).



There is no standardised curriculum for general English courses in the college curriculum thus English courses have different teaching patterns in different universities. Some universities ask their students take two to four hours English courses for their first year in college, while others ask their students to take two-hour sessions for four continuous years in college. Chang (2005), in her research survey on college general English courses of twenty eight universities discovered that twenty three out of twenty eight universities request a basic six credits for General English courses, and three universities ask students to take twelve to fourteen credits of English courses. This indicates a trend of increasing the credits and teaching hours of college English courses in Taiwan. Furthermore, several research papers have discussed the current issues of English education in college curriculum in Taiwan and how it is related to student motivation in English learning (Chien et al 2002; Huang 1996, 1997, 1998, 1999; Lee, 2000; Wang 2003, 2004). For example, Wang (2003) investigated the attitudes of students and their perceptions towards college freshman general English and discovered that 85.7% of students had high motivation toward enhancing their English ability, and more than 90% of students agree on the impact of English learning on their future career. This finding explains the reason why Taiwanese college students still spend more time on English learning and further confirms that Taiwanese students appear to be more goal oriented in English learning.

In order to improve the English ability and motivation of students towards language learning, most colleges started to apply several methods in language classes, such as reducing class size, or using homogeneous grouping in language classroom (Chien et al, 2002; Lee, 2010). A great number of studies in this field have suggested a tendency of having homogeneous ability grouping class to put students at the same level together in college English learning classrooms in order to overcome the difficulties in English education and to improve student learning efficiency (Chang, 2005; Lee, 2000; Liao, 2013). Therefore, the effectiveness of ability grouping has been discussed and linked to student language achievement, which has been considered in recent studies of English learning in college curriculum.

### **1.2.3 Ability Grouping in the language classroom in Taiwan**

Ability grouping was proposed by the Ministry of Education in Taiwan in the 1970s, in which students were assigned to different classes based on their level of ability (Tsai, 1978; Yen, 1975). It has become more popular within higher education in Taiwan during the past few decades, and researchers have found that both teachers and students are able to benefit from this kind of class setting (Cheng, Li and Pan, 2009; Liu, 2008; Sheu and Wang, 2006, 2013; Yu, 1994). In an ability-grouped class, a teacher can adjust their course to the level of their students by choosing an appropriate textbook best suited towards a particular ability group, setting the course objectives, and adjusting their teaching methods. Students, on the other hand, can receive an instruction which is more suitable to their English level and thus will not feel overawed or unchallenged and that would be the case if the incorrect teaching materials were to be implemented.

Ability grouping has recently been practiced in the Taiwanese education system as a measure to deliver college English classes in order to enhance the language learning skills of students. A select number of universities have started to apply ability grouping classes since the 1980s (Chien, 1987; Yu 1994), such as National Cheng-chi University, National Central University, National Chiao Tung University, Soochow University, Catholic Fu-Jen University, and Ming Chuan University. Later in 2001, the Ministry of Education started to facilitate a policy of promoting ability grouping in all universities (Sheu and Wang, 2006). Consequently, the focus school of the main study, started a new first year undergraduate English program in 2007, offering ability grouping classes at three different levels in accordance with student English level. This has had the direct and indirect result of pointing universities towards changing their courses to best suit students based on their own specific ability level for the class.

Given that most of the college language classrooms in Taiwan are now in favour of ability grouping instruction, a number of studies on grouping effects discussed and compared the efficiency and student attitude among different ability groups (Liu, 2008; Luo and Tsai, 2013; Tsai et al, 2000). Tsao and Tsai (2002) in their research investigated the teaching method, curriculum, teacher perception and assessments of

the English course in twenty seven universities in Taiwan. They indicated that there are more than half of the universities applying English ability grouping in the English courses, and that there will be two more subsequent universities applying ability grouping instruction in the following academic year. Seemingly it has become a trend to separate students into homogeneous ability grouping from the student English grades from either college entrance examination results or simply the language proficiency test. Students from different academic backgrounds and interests, but from the same year, are selected and re-arranged into their core English class.

In addition to a great deal of research investigating the effectiveness of ability grouping classes, the focus of analysing the efficiency of the ability grouping class and the motivation of students in different groups has been increasingly discussed in recent years. Chien et al, (2002) examined the efficiency of ability grouping in freshman English courses and investigated further the perceptions that teachers and students hold towards ability grouping class in one private university in Taiwan. The findings indicated that students in ability grouping classes progressed better as measured by the Test of English as a Foreign Language (TOEFL) scores. Additionally, students at lower levels were reported to make the greatest progress. The report also suggested positive feedback of teachers' perceptions towards ability grouping classes, which has also supported the earlier research findings (Sheu and Wang, 2006; Yui, 1994). Chien et al's (2002) research supports the current state of having ability grouping in language learning classrooms in college.

However, there are several research studies on ability grouping practice in Taiwan that have not been positive. Tsao (2003) found no difference between higher ability groups and lower ability groups in the findings of student perception of ability grouping. Meanwhile, considerable research has found that students at a lower level group are more frustrated and against the idea of ability grouping in Taiwan (Chou and Lou, 2003; Wang, 1998). The evidence seems to suggest a reason to examine how ability grouping relates to student achievement and motivation in Taiwanese language classrooms.

### **1.3 The main issues discussed in this thesis**

Given that ability grouping has been used in Taiwan for years, its influence on student motivation in English learning and how ability grouping relates to academic achievement is a main focus in this study. This study was conducted to examine whether ability grouping is helpful for students to develop their language ability as well as their motivations, or detrimental to language learning. Thus, the first issue this study aims to test is how important motivational variables correlated with student perception of ability grouping.

In order to interpret the motivational underpinnings around student achievement within the Taiwanese college system in English language learning, another issue concerned in this study is how motivational variables correlate in an ability-grouping context. Motivation is defined in modern research as ‘a motive to engage in specific activity’ (Hulleman, 2008), which cannot be conceptualised by one single theoretical perspective. Thus, several studies in the field of motivation have integrated different motivational constructs and have drawn attentions to the correlation between student perceptions of language learning motivation and their achievement (Bong, 2001; Conley, 2012; Hsieh, 2004; Hsieh and Schallert, 2008; Lampkins-Uthando, 2014; Liem et al., 2008; Mori and Gobel, 2006; Wigfield and Eccles, 2002).

In addition, this study adopts the frameworks established by Eccles and Wigfield (2002) that integrates different, sometimes opposing forms of motivational theories. Their study categorised current motivation theories into 4 sections, including theories focused on expectancy (self-efficacy theory), theories focused on the reasons for engagement (instrumental motivation, goal theories), theories integrating expectancy and value constructs(expectancy-value theory, attribution theory), and theories integrating motivation and cognition (self-regulation). Where this research differs is a primary focus on motivation theories closely linked to expectancy-value model of behaviour. As Graham and Weiner (1996) suggested, most motivation approaches “can be conceptualised within an expectancy-value framework”. Reviewing studies that investigated motivations in an ability grouping context (Betts and Shkolnik,

Chen et al., 2004; Hall, 2014; Hooper et al, 1989; Lou et al, 1996; 2000; Liu, 2008; Yu, 1994), this research noted that student advantageous outcomes are greatly associated with their motivation and their attitudes towards learning. Accordingly, this research specifically addresses the significance of exploring these motivation constructs for a thorough understanding of “how these motivational beliefs are related and affect various outcomes” (Liem et al., 2008:487).

Recent research studies that integrating various motivational constructs in one single study can be categorised into five frameworks (see table 1.1), including the integration of expectancy-value and self-regulation (Eccles and Wigfield, 2002), the integration of expectancy-value and social-educational model (Mori and Gobel, 2006; Shaaban and Ghaith, 2000; Wen, 1997), the integration of expectancy-value, self-efficacy, achievement goal, and self-regulation (Al-Harthy et al., 2010; Hulleman et al., 2008; Liem et al., 2008; Middleton and Midgley, 1997; Pintrich, 2000), the integration of self-efficacy and self-regulation (Chularut and Debacker, 2004; Kuo, 2010), and the integration of self-efficacy and attribution (Hsieh and Schallert, 2008). Nevertheless, to date the number of studies that integrated different motivational constructs across theoretical perspectives is small (Conley, 2012; Hsieh, 2004; Hulleman, Durik, Schweigert and Harackiewicz, 2008; Liem, Lau and Nie, 2008). With an understanding of the relations between these motivational variables, researchers are able to appreciate the perspectives of different motivational constructs and how they interlink and interweave, and in a way that not any single motivation definition can encompass. Therefore, an important issue in this research is to explore the relations of Taiwanese college student motivation and their academic outcomes in ability grouping classes by including the motivational theories (instrumentality, self-efficacy, expectancy-value, achievement goals, attributions and self-regulation) within these frameworks.

**Table 1** Studies on integrated motivational constructs

<b>Integrated motivational constructs</b>	<b>Author/year</b>
Expectancy-value and Self-regulation	Eccles and Wigfield, 2002
Expectancy-value and Social-educational model (Instrumentality)	Wen, 1997; Shaaban and Ghaith, 2000; Mori and Gobel, 2006
Expectancy-value, Self-efficacy, Achievement goal, and Self-regulation	Middleton and Midgley, 1997; Pintrich, 2000; Hulleman et al., 2008; Liem et al., 2008; Al-Harthy , 2010
Self-efficacy and Self-regulation	Chularut and Debacker, 2004; Kuo, 2010
Self-efficacy and Attribution	Hsieh, 2004; Hsieh and Schallert, 2008

The other issue in this study is to explore whether the correlations between various motivational constructs, students' achievement and their perception of ability grouping correspond to the studies conducted in other countries/cultures. With a number of studies discussing the correlation of learner achievement and the motivation, most studies in language learning motivation have been conducted in different cultures in the West, especially in the USA and UK. In addition, studies conducted in East Asia have also demonstrated similar characteristics to those studies conducted in the West. In the present research, a number of studies have reported parallel findings in both Western and Eastern contexts that self-efficacy, task-value and mastery goal were positively correlated to student achievement (Bong, 2001; Elliot and Church, 1997; Meece et al., 1988; Middleton and Midgley, 1997). In addition, other researchers measured whether parallel findings could be found across cultures (Chen and Stevenson, 1999; Gore et al., 2008; Iyengar and Lepper, 1995; Niles, 1995), suggesting cultural differences should be considered in motivation. Other studies, however, have shown inconsistencies in goal orientation, and self-efficacy based on different cultural contexts (Elliott, Hufton, Hildreth and

Illushin, 1999; Elliott, Hufton, Illushin, and Willis, 2001; Elliot, Hufton, Willis, and Illushin, 2005; Salili et al., 2001). These studies have revealed the fact that the different culture contexts may influence student goals to learn (Elliott et al, 2001, 2005).

In the light of these concerns, it is also one of the aims of this thesis to assess the effects observed in different cultures that could be applied in a Taiwan context. In particular, Taiwanese students are more like UK/USA students in that they focus more on the instrumental function of language learning in terms of seeking more opportunities in their future career (Elliott, Hufton, Illushin, and Willis, 2001; Elliott, Hufton, Willis, and Illushin, 2005). Results from recent research concerning Taiwanese students and their approach to learning English has shown Taiwanese students tend to be instrumentally oriented (Hardre et al., 2006; Lai, 2013; Tsai, 2012). As goal-theorists suggested, the focus of instrumentality is more likely to lead to ‘a greater student emphasis upon performativity’ (Remedios, Kiseleva and Elliott, 2008). Consequently, one purpose of this study is to examine to what extent motivation and achievement of Taiwanese students mirrors the relationships commonly attributed to both Western and Asian cultures. This follows on from the work by goal-theorists (such as Liem et al., 2008; Pintrich, 2003) who have suggested that there is a need to apply the theory to students in different socio-cultural contexts.

#### **1.4 Purpose of the study**

Motivation is stated as one of the most influential factors in helping to learn a second or foreign language successfully (Bandura and Schunk, 1981; Gardner, 1985; Ely, 1986; Scarcella and Oxford, 1992; Oxford, 1999). Motivation is assumed to have a direct influence on students’ learning strategies, their willingness to use a target language, their learning inputs and outcomes, their performance in curriculum-related tests, and most importantly, their achievement (Oxford, 1999). There has also been considerable research exploring relationships between different

motivational variables and achievement in language learning (Dornyei, 1994; Gardner, 2001; Gardner and Tremblay, 1994; Lim et al, 2008; Oxford, 1994, 1996; Oxford and Shearin, 1994; Williams, 2006).

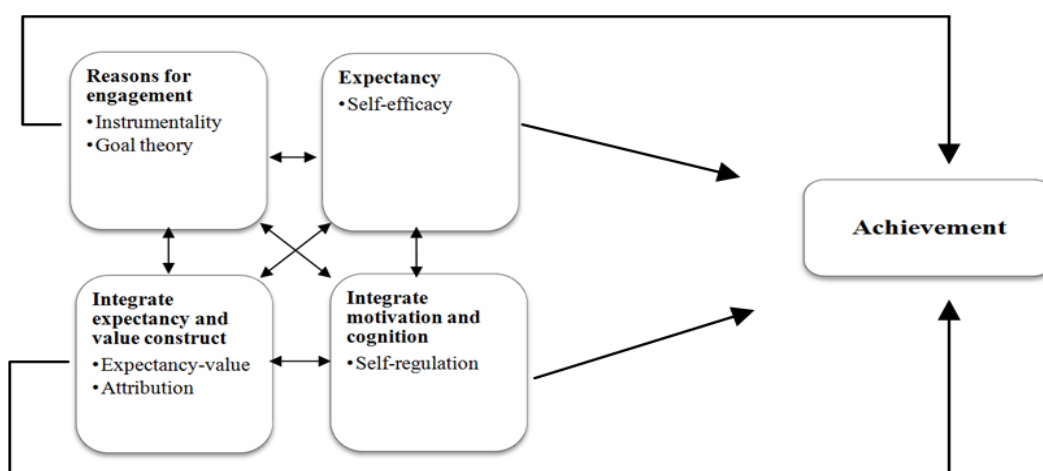
Recent research on motivation has discovered some positive relations between motivation beliefs, task value, and achievements of individuals (Bong, 2004; Pintrich and De Groot; 1990; Pintrich and Garcia, 1994; Schunk and Zimmerman, 1994; Wolters, 2004). Research investigating student learning has certainly indicated that motivations are positively related to learning outcomes and achievement. For example, studies have shown positive relationships between intrinsic/extrinsic goals and achievement (Deci et al., 2001; Noels et al., 1999; Wolters, 1998), positive relations between goals, expectancies and self-efficacy, performance goals and academic achievement (Eccles, 2002; Meece et al., 2006; Schunk, 1991), positive relations between self-regulation and achievement (Garcia and McKeachie, 2005; Pintrich, 2000; Wolters and Pintrich, 1998), positive relations between performance of students and how they perceive their success or failures in learning (Hsieh, 2004; Weiner, 1979; Wentzel, 1991) but a negative correlations between performance-avoidance goal and academic achievement (Elliot and McGregor, 1999; Middleton and Midgley, 1997). The correlation between motivation and achievement has been shown to be either direct or indirect in most studies, and what this means is that motivation is consistently related to academic achievement in language learning.

However, in an EFL setting the factor of motivation is a much more complex concept, especially when related to the theme of ability grouping. Researchers have suggested that the correlations between motivational variables may be different in a more competitive and comparative learning context (Ames, 1992; Liem et al., 2008; Maehr and Midgley, 1996). As Ames (1992) suggested, ability grouping may cause a decline in motivation, some research studies have discovered that students in heterogeneous environments were more motivated than those who were in homogeneous groups (Saleh, Lazonder and De Jong, 2004). Other research has provided the evidence that students at lower levels benefited more in ability grouping classes in terms of their attitudes and motivation (Luo and Tsai, 2002). Given that



ability grouping has been commonly practiced in college English classes in Taiwan, there has been a considerable amount of research conducted in this field, which is discussed in greater detail in section 2.4. However, there has been little research focusing on how student attitude towards ability grouping may influence their motivations. Therefore conducting a survey of student attitudes towards ability grouping within the Taiwanese college student population will help to enhance further evidence in this field as well as how it relates to language learning motivation and achievement. As a result, the current research will examine the relationships between instrumentality, self-efficacy, expectancy-value, achievement goals, attributions and self-regulation to see if there are differences in relationships depending on whether students are ability-grouped or not. Furthermore, given the research already undertaken concerning motivation, achievement and ability grouping, the research has hypothesised that student motivational beliefs would be positively correlated with ability grouping and can predict student academic performance.

Therefore, in order to find a more optimal model to interpret student achievement in language learning, this thesis aims to examine which motivational variables best predict academic achievement for Taiwanese students. To explain the motivational theories selected in this research, a conceptual framework depicted in figure 1 was developed based on Eccles and Wigfield's (2002) research. It is hoped to illustrate the relations among these variables and furthermore explain the extent to student academic achievement and their motivation in different ability groups.



**Figure 1** Conceptual framework.

For the reason above, this research will examine the motivational variables frequently cited in terms of the integrations of different motivation constructs. These variables are Gardner's (1985) instrumentality, Elliot and McGregor's (2001) four-dimensional goal orientation theory, Pintrich et al's (1991) self-efficacy and self-regulation, Eccle and Wigfield's (1995) expectancy-value and Weiner's attribution theory (1986), which are discussed in chapter 2. This study aims to review the motivation literature concerning the integrated different motivational constructs, and further examine how these differed in the foreign language learning motivations among Taiwanese college students in an ability-grouping context. Language attitudes and language learning motivations were originally examined and linked with foreign and second learning in previous studies (Gardner and Lambert, 1959). Dornyei et al (2006) illustrated the consequence of focusing not only on the perception of the individual regarding language learning motivation, but on the correlation with various social attitudes. Researchers stated that positive attitudes of learners towards the linguistic cultural community of the target language is a key constituent in L2 motivation that will affect language learning (Gardner, 1985; Dornyei *et al.*, 2006).

Moreover, research concerning the factors that lead to successful learning achievement suggested that the different levels of achievement students attained would affect their language attitudes, motivation, or anxiety at the end of the course

(Gardner *et al.*, 2004). Research findings further indicated differences between students at higher and lower achievement (Azmitia, 1988). That is, there is no significant change for higher level students in attitudes, or motivation, which is different from lower achievement students who are highly motivated at first but at the end of the course received a negative impact on their L2 motivation, and language learning attitude. Similar findings have been found consistently in subsequent research that higher academic achieving students were less motivated than their lower academic achieving peers (Shaaban and Ghaith's, 2000). Therefore, the arc and remit of this research will investigate whether student ability level and their motivational beliefs may have a correlation with their achievement in an EFL class at college in Taiwan.

### **1.5 Research Questions**

This thesis will address the following questions:

- 1 What is the relationship between student perceptions of ability grouping and their levels of motivation (instrumental, expectancy-value, achievement goal, self-efficacy, attribution theory, and self-regulation)?
- 2 How do the motivations (instrumental, expectancy-value, achievement goal, self-efficacy, attribution theory, and self-regulation) inter-correlate in an ability-grouping setting?
- 3 What are the correlations between motivational variables (instrumental, expectancy-value, achievement goal, self-efficacy, attribution theory, and self-regulation) and student academic achievement?
- 4 Would other factors (such as gender and level) be significantly different in motivational variables (instrumental, expectancy-value, achievement goal, self-efficacy, attribution theory, and self-regulation) among students?
- 5 To what extent will college students in general English courses exhibit differences in motivational variables (instrumental, expectancy-value, achievement goal, self-efficacy, attribution theory, and self-regulation) in a Taiwan context?

## **1.6 Significance of the study**

Previous research focusing on the field of defining second language motivations has supported that the role of foreign and second language motivation has played a significant factor in determining language learning achievement in the past few decades. However, there are only a few studies which investigate foreign and second language learning motivations for college students and especially focus on ability grouping classes in a Taiwan context. The value of this research is to provide an overview of English learning motivations and student attitudes towards ability grouping, and make a comparison with previous studies observed in Western and Eastern cultures to see whether similar results could be replicated in a Taiwanese-specific context between different ability groups. Carrying out a study concerning student learning motivations and attitudes will help teachers to provide a more appropriate teaching method to their classroom. This understanding allows teachers to prepare better, support and encourage students for more effective and robust second language learning.

Furthermore, the integration of different motivational theories (instrumental, expectancy-value, achievement goal, self-efficacy, attribution theory, and self-regulation) and student attitudes will be examined and will link with student academic achievements in this research. The strength of each motivational variable amongst students with different levels of proficiency, and their gender will also be investigated. In addition to this, any differences in the level of student motivation will provide teachers with a robust understanding of their students in L2 classrooms. From this result, language teachers will be able to adjust their teaching approaches to meet individual student needs at different levels and at different universities.

## **1.7 Summary**

To summarise, ability grouping has been adopted in many EFL classrooms in Taiwan, student's attitude and motivation has been examined and linked to their academic performance in a number of studies. This chapter provides the overview of the

background of EFL ability grouping within classrooms in Taiwan, and, furthermore, states the reasons of integrating six motivational constructs including instrumentality, achievement goal, self-efficacy, expectancy-value, attribution, and self-regulation to explain student academic achievement. With respect to the recent motivation studies concerning Taiwanese student academic performance, this research aims to investigate whether ability grouping context is beneficial for students when learning English.

Therefore, the following chapters will detail the result of this study. Chapter two will review recent studies on motivations in language learning and ability grouping, and it will be followed by contemporary literature on integrated motivation theories in chapter three. The research hypotheses will be presented in chapter four, followed closely in succession by methodology and the design in chapter five. The result of a pilot study and the main study will be presented in chapter six and seven. Chapter eight will discuss the implication, limitation and provide suggestions for further studies in this area.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Overview of the literature review**

There have been numerous studies in Taiwan that have attempted to examine the effects of ability grouping within language classrooms; furthermore, its effects on language learning motivation and academic achievement have been studied and reviewed among college students for more than forty years (Chang, 2002; Chou and Lou, 2003; Huang, 2004; Liao, 2005). However, the results of the effectiveness in ability grouping classes are still inconclusive. Some scholars suggested a positive relationship between student motivation and their achievement in an ability-grouping context (Sheu and Wang, 2006; Yu, 1994) whilst others argued that ability grouping may damage student learning outcomes as well as their learning motivation for both gifted and low ability students (Chou and Lou, 2003; Liang, 2003). Therefore, in order to explore whether ability grouping has the effect on English learning at the university, this chapter reviews contemporary literature and consists of two main sections: (a) the motivation theories in language learning; and (b) the effects of ability grouping. The first section define the term ‘motivation’ in the context of this study, and furthermore encapsulates the term within the confines of foreign language learning motivation theories. This section is divided further into four major parts based on the construct from Eccles and Wigfield’s study (2002) concerning social-cognitive theories to motivation: theories on task value (instrumental motivation, and goal theories), theories on expectancy for success (self-efficiency theory), theories on integration expectancy and value construct (expectancy-value theory, attribution theory), and theories integrating motivation and cognition (self-regulation theory). In the second section the thrust of the research is based on ability grouping and its effectiveness within the realm of motivation and achievement in language learning.

## 2.2 Motivation Theories and foreign language learning

### 2.2.1 Definition of Motivation

The word ‘motivation’, at its core, is derived from Latin, and it means ‘to move’. That means a study of motivation is a study of action. Previous studies have attempted to explain and define motivation over recent decades, and it has always been a major concern for research in educational psychology. Motivation is defined as a way to stimulate towards the desires and goals of oneself, practiced from a first or third person perspective and which, directly or indirectly, influences the course of direction of action, behavioural responses and sets of beliefs of an individual (Dornyei, 2001a; Schunk *et al.*, 2008). As Dornyei and Otto (1998: 65) have suggested motivation is defined as “*the dynamically changing cumulative arousal in a person that imitates, directs, co-ordinates, amplifies, terminates and evaluates to cognitive and motor processes whereby initial wishes and desire are selected, prioritised, operationalised and (successful and unsuccessfully) acted out*”. For example, the attempt to communicate fluently with foreign clients in their own language at the workplace is a motivation, from the perspective of both the organisation and the individual(s) in question, and this demonstrates the desire and necessity to master the construction and usage of the English language.

Motivation is defined as “*the process whereby goal-directed activity is instigated and sustained*” (Pintrich and Schunk, 2002:5); subsequently, it has widely been organised into four distinct psychological dimensions which include: energising goal directed behaviour; supporting students to engage in learning; directing the behaviour of students towards goals; and helping to regulate determination towards goals (Alderman 2004; Ford 1992). Based on these dimensions, it is believed that if students were motivated to master one subject, the logical assumption is that they will undertake goal-related activities, such as signing up for evening classes, self-regulating learning, etc. As a consequence, motivations are able to describe the reason why each individual decides to set their own goals, the sustainability of insisting the goal, and how rigorous each individual is going to pursue their goal(s). Considerable research in motivation focuses upon the relationship between actions and the beliefs and goals of students; therefore, motivation is continuously accepted

as a main driving force that may affect student outcomes and their behaviour in learning. However, most research in motivation has discovered that it is very difficult for a single uniform theory to explain all possible scenarios but that due to multi-dimensional and other complexities there are different types of motivation (Larsen-Freeman, 2001). This means that motivation has to be studied in a particular context, such as sports or language learning, in order to describe accurately the specific motivation that drives participants. Furthermore, the motivation theories presented in this thesis are focussed on the research of assessing the relations between integrated motivations and academic achievement, and these will be explained more thoroughly in subsequent sections.

### **2.2.2 Motivation in language learning**

The focus of second-language learning (L2) motivation theories has been highly discussed and debated greatly in a number of studies in the past few decades, and there has been a great deal of research examined the relationship with language learning and L2 motivation (Dornyei, 2001a; Dornyei and Ushioda, 2011; MacIntyre et al., 2009). Researchers in this field have already drawn attention to different aspects of language learning motivation theories that Gardner (1985) designated L2 motivation as a “*combination of effort plus desire to achieve the goal of learning the language*”. Some researchers have attempted to build a model of motivation concerning the process of language learning (Gardner and Lambert, 1972; Dornyei, 1994; Oxford, 1994; Oxford and Shearin, 1994; Gardner and Tremblay, 1994). The motivational model was created by Canadian psychologists, Gardner and his associates, who created the early seminal works in language learning motivation theories. Gardner and colleagues have suggested that the attitude of students and their goals are crucial, persistent attributes to language learning motivation.

In addition, whilst being considered as a crucial factor by a number of researchers, attitudes have had an influence on successful learning outcomes in language learning (Gardner and MacIntyre, 1993; Masgoret and Gardner, 2003; Ushioda, 2005;



Oroujlou and Vahedi, 2011). Many definitions have been proposed to describe the essence of attitude, which certain authors have attributed a causal link with behaviour in the area of second language acquisition (Gardner, 1985). As Gardner (1985) stated, “*attitude will influence the relative degree of success with which this can be achieved*”. Considerable research has stressed further the significance of attitudes in determining how successful an individual would be in acquiring it (Clement et al., 1994; Dornyei, 1994; Gardner, 1985).

The socio-educational Model, developed by Gardner and his colleagues, has dominated L2 learning motivation for three decades (Dornyei, 2005). Recent research, however, has questioned its specific application to in EFL (English as foreign language context) contexts (Clement, Dornyei, and Noels, 1994; Warden and Lin, 2000) and its position in cognitive development in psychology (Dornyei, 2005). As a result, a number of research papers have raised the issue of reconceptualising L2 motivation constructs (e.g. Crooks and Schmidt, 1991; Dornyei, 1994; Oxford and Shearin, 1994). Dornyei (1994), in his study, proposed a new framework to expand the components of foreign language learning, suggesting that the nature of language learning motivation depends on “*who learns what language where*” (p.280). His model was based on three different levels: language level (*what*), learner level (*who*), and learning situation level (*where*). The first component, language level included integrative motivation and instrumental motivation. The second component, learner level consisting of the need for achievement, and self-confidence focused on the reasons for engagement in a task rather than an instinctive need. The third component, learning situation level, is associated with situation-specific motivation in the classroom, including course, teacher and learner group. However, following research argued the components were diverse and did not cover sufficient components (Dornyei, 1998). Furthermore, the main focus in this study is on student language learning motivation in ability grouping context, rather than the influence from the learning situation. Thus, this study, in terms of the Dornyei Framework, deliberately concentrates on the language level and learner level.

Overall, motivation can influence what, when, and how we learn, and is considered to be a determining factor in developing a second and foreign language skill (Oxford and Shearin, 1994). Schunk (1995) stated in the research that students are motivated to participate in a task that ‘they believe will help them learn’. Students with high motivations are willing to participate in class, systematically organise their materials, and ask for help if they have difficulty understanding the task. On the other hand, with less motivation to learn, students may feel unwilling or feel a sense of apathy towards engaging in the classroom activities, be inattentive in the class, and they may not ask for help when they encounter difficulty comprehending. That is, motivation is one significant factor that affects learning and performance (Pintrich, 2003; Schunk, 1995). Thus, to recognise the motivation of students is an important issue for second or foreign languages teachers and this will enable them to understand the needs of students and to raise the level of motivation in language learning. This will appeal particularly to curriculum development as amending the learning process for factors, such as attitude, helps to foster effective learning from the perspective of the teacher and will appeal generally to the expectations of the students (Schmit and Watanabe, 2001: P.314)

### **2.3 Conceptualisation of motivation in language learning**

Previous research from Weiner (1992) has indicated that the development of theories in motivation have emerged from various concepts. As mentioned above, in order to examine which motivation theories can best describe the achievement of college students and help them perform better in language learning, this thesis reviews motivational theories by adopting Eccles and Wigfield’s (2002) model. Their study reviewed various social-cognitive motivational theories and furthermore characterised motivations into four sub-sections, including theories on task value the reasons for engagement, theories on expectancy for success, theories on integrating expectancy and value, and theories on integrating motivation and cognition.

### **2.3.1 Theories on the reason for engagement**

Recent publications on theories of learning motivation focus their attention in particular on the relationship between belief, values and goal with motivation. Motivation theories have discussed how well individuals know their own competence, their expectancy and the goals they set in an achievement task. These act as mediators to their behaviour and performance in a practical setting. However, these theories do not seem to acknowledge one essential motivational question, which stressed in the research of Wigfield et al. (2007). This questions whether an individual actually wants to complete the task. That is, even if students believe that they are capable of doing a task, they probably do not want to engage in the task, and this would have an impact on their motivation for approaching the goal (Eccles and Wigfield, 2002; Wigfield et al., 2007). Beginning with the discussion of the different purposes or goals for students to accomplish their tasks, the theories in this section include integrative and instrumental motivation, and the achievement goal theory.

#### **2.3.1.1 Social-cognitive motivation: Integrative and instrumental motivation in language learning**

Early motivation theory in foreign language learning was proposed by Gardner and his associates who first studied the relationship between the attitude of students towards and their goal or orientation in second language learning. Gardner and Lambert (1972) applied social psychological theory to language learning motivation in Canada, and developed a ‘social-educational model’ (Gardner, 1985), which has inspired a considerable motivation studies in this field (Gardner, 1985, 2000, 2001; Gardner and MacIntyre, 1991, 1993a, 1993b; Gardner and Tremblay, 1994). In their model, motivation to learn a language is considered to be as a complex mix of variables which combines effort, desire to achieve the goal of language learning, and plus the attitudes towards language learning (Gardner, 1985). Gardner and Lambert in their study focused different variables that may influence student motivation as well as their learning achievement. One reason to develop this theory is because of the multicultural setting in Canada, a place mixing two different linguistic communities in a multicultural setting, where French is learned as a second language rather than a foreign language for language learners.

Consequently, they proposed a dichotomous model featuring integrative orientation and instrumental motivation explaining the reasons for students to get involve in language learning, and furthermore to study the connection between attitude/motivation and the achievement of second language learning in their social-educational model (Gardner and Lambert, 1972). Based on their work, integrative motivation was suggested as a key component of the desire of a learner to learn the target language, ‘reflecting a sincere and personal interest in the people and culture represented by the other group’ (Gardner and Lambert, 1972: 132), whereas instrumental motivation refers to the need to fulfil a practical benefit; such as career opportunities. According to the works from Gardner and his colleagues, there is a strong correlation between motivation behaviour and integrative motivation (Gardner, 1985; Gardner and Smythe, 1975, Masgoret and Gardner, 2003). Instrumental motivation, on the other hand, correlates to learning achievement. A meta-analysis conducted by Masgoret and Gardner’s (2003) examined 75 independent samples involving 10,489 individuals showed that student achievement in a second language learning is highly related to integrative and instrumental motivation.

The research on integrative motivation has remained one of the most important issues in the published work of Gardner, which was suggested to have significant correlation with second language learning (Gardner, 1985). However, many researchers have challenged the concept of integrative motivation in Gardner’s model (1985). Some researchers argued that different orientations may attribute to different learning outcomes. That is, students with higher integrative motivation are willing to ‘identify with members of another ethno-linguistic group and take on very subtle aspects of their behaviour’ (Gardner and Lambert, 1972: 135). Researchers questioned the generalised nature of the concept and argued for its connection with second language learning (Crooks and Schmidt, 1991; Oxford and Shearin, 1994; Skehan, 1989). They argued the research findings of integrative motivation were insignificant and conflicting (Luknani, 1972; Pierson, Fu and Lee, 1980; Oller, 1981). For example, Clement and Kruidenier’s (1985) study examined the social identification and integration in integrative motivation and found little evidence that integrative orientation was common place for second language learners. Dornyei and

Csizer (2002) in their study also stated that their findings did not ‘point to a traditionally conceived integrative motivation either’ (p. 12).

There has been considerable debate about integrative motivation in L2 motivation in recent years, concerning the application of the integrative motivation ‘when there is no specific target reference group of speakers’ (Dornyei, 2009). Recent research has developed more psychological variables to investigate English learning and achievement. For example, Dornyei (2009) in his research stated the importance of L2 self and learner identity in L2 motivation, focusing on the internal desire of individuals. Yashima (2009), furthermore, proposed the notion of ‘international posture’, expanding the concept of integrative motivation to ‘refer to a generalised international outlook’ in L2 motivation. In her study, the concept of ‘international posture’ was broadly elaborated as ‘interest in foreign or international affairs, willingness to go overseas to stay or work, readiness to interact with intercultural partner’ (Yashima, 2002:57). That is, the concept of international posture broadens the focuses from one specific L2 group to any non-specific international community of English language users. The results of the studies suggested that with influences by integrative motivation, international posture is more ‘pertinent to EFL context’.

However, other researchers argued the simplification of the dichotomous model of integrative and instrumental goals (Crookes and Schmidt, 1991; Oxford and Shearin, 1994). For example, some motivations are context-specific and cannot be discovered and analysed by only using an integrative and instrumental approach (Clement and Kruidenier, 1985). Oxford and Shearin (1994) found that current theory might not be able to cover all possible eventualities in second/foreign language learning motivation. In their study, Dornyei *et al.* (2006) investigated the motivations and attitude towards foreign/secondary language acquisition of Hungarian students as well as their opinions towards globalisation, and stated that Hungarians were reluctant to learn Russian as the first foreign language, which further indicates that ‘language learning without sufficiently positive language attitudes to support it is a futile attempt’. Moreover, new political change in the country brought about a great deal of opportunities with foreign businesses and investment. This reflects the fact

that the needs of Hungarians for foreign language learning are more diversified. Thus, their study proposed different components of language learning motivation in terms of integrativeness, instrumentality, attitudes toward second language speakers, cultural interest, validity of L2 community, and linguistic self-confidence. These components may account for the diversities for language learning from a different cultural context. Therefore, if a motivation model only considers certain factors of the needs of students, it will be difficult for language teachers to be aware of student needs and further to help them to develop more specific learning goals.

Furthermore, additional research has linked attitudinal and motivational variables to the performance of individuals in language learning. Most of the research investigated the attitudinal and motivational variable by applying the Attitude/Motivation Test Battery (AMTB) or tests derived from it (Gardner, 1985). The AMTB was first developed by Gardner and Lambert in 1959, and improved in 1975 by Gardner and Smythe. It was designed to observe different variables in language learning, consisting of 11 sub-tests that can be put into five different categories. Gardner (2000) in his recent version of socio-educational model illustrated five categories: integrativeness; attitudes toward the learning situation; motivation; instrumental orientation; and language anxiety.

Language anxiety is viewed as “*a distinct complex of self perceptions, beliefs, feelings, and behaviours related to classroom language learning*” (Horwitz et al., 1986), and it was found to be associated with learning outcomes in language acquisition (Chen and Chang, 2004; Gardner, Tremblay and Masgoret, 1997; Horwitz, 1991; MacIntyre and Gardner, 1997). However, some research has demonstrated inconsistent results (Bailey, 1983; Yukina, 2003), suggesting that learning situation may influence student learning anxiety in a foreign language learning context. Research findings on language anxiety in Taiwan show a difference in the ability-grouping context. Some researchers argued that learning anxiety is reduced at all levels in ability grouping classes (Liu and Cheng, 2014), however, some researchers found higher anxiety in higher level classes (Kao and Craigie,

2010). These findings suggest student learning anxiety varied in the ability-grouping context; consequently, it is excluded among the motivational variables in this study.

Additionally, some research findings have showed the disparity in motivation orientation between Chinese and Taiwanese students. Huang (2007) in her studies reviewed a number of studies conducted in Taiwan, and further concluded that the majority of Taiwanese students focus more on instrumentality goals to learn a language for their future career. This is supported by earlier studies conducted in Taiwan (Chen, Warden, and Chang, 2005; Warden and Lin, 2000), but suggested the differences from Western students 'in the meaning of achievement and what is considered to be an important achievement goal' (Salili *et al.*, 2001). Based on the previous research studies, it is important to note that it is difficult to use one motivation theory to generalise the learning motivation of a typical student in different cultures. The beliefs and values in one society will reflect a different set of expectancies and goals; such as to believe what it they are worth to accomplish. As Dornyei and Csizer (2002) concluded in their findings:

*Although further research is need to justify any alternative interpretation, or believe that rather than viewing 'integrativeness' as a classic and therefore 'untouchable' concept, scholars need to seek potential new conceptualizations and interpretations that extend or elaborate on the meaning of the term without contradicting the large body of relevant, empirical data accumulated during the past four decades. (p.456)*

### **2.3.1.2 Achievement Goal Theory**

There are different kinds of goals that students may adopt in achievement situations, Ford and Nichols (1991) in their study extended this into a 'with-person' goal and a 'person-environment' goal. This suggests that students who have different goals will perform better than those who do not have any specific goal (Urda and Maehr, 1995; Tercanlioglu, 2004). In addition, students may pursue the same goal for various

reasons, such as to obtain good grades in class and this can contribute to different cognitive, affective and behavioural consequence (Schunk, Pintrich and Meece, 2008). There are a number of theories focusing on achievement behaviour; one theory was commonly cited in recent years is achievement goal theory (also known as goal-orientation theory). Achievement goal theory was developed to explain the behaviour and performance of learners on academic tasks when they are engaging in the same task (Dweck and Leggett, 1988; Urdan, 2004; Ames, 1992; Wolters, 2004). Instead of focusing on specific goal, the major emphasis of achievement goal theory is concerned with the *reasons* how individuals judge their own performance, success and/or failure (Deci and Ryan, 2000; Eccle, 2005; Elliot, 1997; Schunk et al, 2010; Pintrich, 2000). Accordingly, achievement goal theory has become increasingly influential in recent studies of motivation.

Achievement goal theory mainly concerns the goals that direct achievement-related behaviour and the reasons for engaging in achievement behaviour. Thus, considerable research has shown high interests in investigating the motivation of students and the relations between motivation and their achievement behaviour (Ames, 1992; Dweck, 1989; Pintrich, 2000). Achievement goal (goal-orientation) factor is one reason for learners to pursue achievement behaviour (Urdan, 1997), and it is able to lead to a *“different way of approaching, engaging in and responding to achievement situations”* (Ames, 1992: 261). By considering the reasons or purposes why learners engage in an achievement task, it is therefore understandable why learners achieve, the reasons for success or failure, and the reasons to achieve the intended outcomes (Molden and Dweck, 2000). Thus, goal theory was *‘perceived as a more comprehensive means of understanding why students may be motivated to achieve’* (Elliot et al, 2005:19).

A review of the studies of achievement goal theories has developed and illustrated to identify the construct of the achievement goals, which included dichotomous approach (Dweck, 1986), trichotomous approach (Elliot and Church, 1997), four-dimensional goal orientations (Pintrich, 2000). In addition, a recent study by Elliot et al. (2011) proposed a 2×3 achievement model in order to articulate the



nature of achievement goal theory. These motivation structures of the achievement goal theory are discussed in the following section to link with achievement goals.

### *Development of achievement goal theory*

There is prolific research on goal orientation theories, and two distinct sets of goal orientations have been commonly described in early studies of achievement goal theory: learning and performance goals (Dweck and Leggett, 1988; Elliot and Dweck, 1988); mastery and performance goals (Ames and Archer, 1988); and task-involved and ego-involved goals (Nicholls, 1984). The main concepts of goal orientation theories are based on Dweck and Elliott's (1983) work. Focusing more on the goals for achievement task, the concept of achievement goal theory was first elaborated by Dweck who suggested that some students would endeavour to demonstrate their competence (performance approaches) while others would try to develop mastery (mastery approaches) in a task (Diener and Dweck, 1978; 1980). Dweck (1986) in her study explained that the achievement goal represents the reasoning for an individual's behaviour in an achievement situation, which leads to two circumstances: one is that people aim to show their competence or to avoid their incompetence (performance goal); and the other is to develop their competence and task mastery (learning goals). In some measurements of the relevant studies, certain terms are also used instead of learning goals, such as "mastery goal" (Ames and Archer 1988), and "task-involved goal" (Nicholls, 1984) and 'task-focused goal' (Maehr and Midgley, 1991). However, 'a mastery goal' is more commonly cited and adopted in present literature.

In addition, students with learning goals are more likely to improve their skills, master the knowledge, and expand their understanding or insight in academic tasks. (Ames, 1992; Dweck and Leggett, 1984; Pintrich, 2000; Schunk et al, 2008; Elliot and Dweck, 2005). That is, the major concern for these students with learning goals is to develop their own skills and master the task. Students that approach achievement with learning goals may endeavour to persist with their own self-regulated learning efforts. They tend to understand comprehensively by studying

materials, connecting the knowledge to previous studies, and they are more likely to seek help if they have any difficulties in tasks (Ames, 1992; Ames and Archer, 1988; Pintrich and Schunk, 2002). Consequently, these were further thought to lead to the mastery pattern ‘regardless of level of confidence in ability’ (Elliott and Dweck, 2005:53). There is much research evidence consistently supporting that learning goals are positively linked to learning outcomes, such as the perception of self-efficacy and adaptive of the attributional pattern of success and failure (Ames, 1992; Elliot, 1999; Gerhardt and Brown, 2006; Weiner, 1990, 1994). Utman (1997) in his study mentioned the advantages of learning goals were greater for challenging and complex tasks, and were also greater for college students than for students at primary school or high school. However, there are other research studies suggesting a negative relation to maladaptive learning behaviour, such as the anxiety of test taking (Shih, 2005a, 2005b) and the avoidance to seek help (Shih, 2007a, 2007b).

In contrast, people may adopt different goals in achievement setting, which would cause ‘*differential task construal and differential patterns of affect, cognition, and behaviour*’ (Elliot, 2005:54). For example, a number of studies discovered that students with performance goals focus more on performing their skills rather than on developing knowledge, suggesting a ‘helpless response pattern’ (Elliot, 2005) for the reason that failure is commonly related to a lack of incompetence. This may cause ‘low ability attributions for failure, negative affect following failure, use of ineffective strategies, and decreases in subsequent performance’ (Molden and Dweck, 2000). Furthermore, performance goals may lead to “mastery response pattern when accompanied by high confidence in ability” (Elliot, 2005). Unlike students with learning goals, the major concern for students who adopt performance goals is to show their ability and how their ability will be judged in comparison with other students rather than to master the task. They may try to be the best in their group or class, avoid appearing less worthy than others and also seek for the public recognition (Ames, 1992; Dweck and Leggett, 1988; Pintrich, 2000). In some relevant studies, certain terms are also used instead of performance goal, such as “ego-involved goal” (Nicholls, 1984), and “ability-focused goal” (Maehr and Midgley, 1991).

In the 1990s, increasing numbers of researchers reviewed the idea of achievement goal dichotomy, and the majority of these reviews further supported the hypothesis that learning goals aim to develop the ability and task mastery of students, which were able to lead to more positive achievements and outcomes. The performance goals were to demonstrate competence, which was positioned in a manner that provides negative outcomes for students (Elliot, 2005). However, these reviews focused more on the effects of achievement goals rather than the perception of competence. Thus, there was a number of subsequent research studies conducted in this area inconsistently showing complex results. For example, Elliott and Dweck (1988) in their research indicated a connection between performance goals and negative outcomes, such as avoidances of challenge and surface learning. However, the following research showed different findings. For example, Wolters, Yu and Pintrich (1996) research implied a positive correlation between performance goals and adaptive learning outcomes, self-efficacy and academic achievement, and their findings were able to apply across different academic subjects, such as English. In some types of achievement tasks, performance goals were indicated as null or positive effects (Miller and Hom, 1990). As a result, more researchers have argued whether this model may thoroughly interpret the findings and the appropriateness of the dichotomous construct (mastery vs. performance) in achievement theory.

The dichotomous achievement goal framework was then revised further by Elliot to create a trichotomous framework (Elliot, 1994; Elliott and Harackiewicz, 1996; Elliot and Dweck, 2007). In his trichotomous framework, Elliott, Harackiewicz and their colleagues developed a distinction in performance goals which differentiated between “approach” and “avoidance” performance goals, whereas some researchers argued the model of approach and avoidance should be applied to mastery goal (Pintrich, 2000). In addition to this, students who adopted the performance-approach orientation tended to show more competence, whilst students with performance-avoidance orientation were concerned not to perform worse than their classmates in completing tasks. The concept of performance-approach orientation and performance-avoidance orientation provided a thorough understanding of performance goals.

Furthermore, the studies of trichotomous motivation model in both Western and Eastern countries show constantly positive effects on the academic achievement and self-efficacy of students (Wolters, 2004; Gutman, 2006; Conley, 2012) in mastery goals. In addition, early research work of the trichotomous motivation model in a Taiwanese context was consistent with the Western empirical studies that performance-avoidance demonstrates negative learning outcomes (Chan and Lai, 2007; Shih, 2007). However, the empirical evidence on the effects of performance-approach goals in Western countries was not consistent like mastery goals and performance-avoidance goals. The findings of performance-approach goals showed both positive and negative learning outcome in the present studies. Some studies revealed a positive association with better achievement and higher self-efficacy (Church, Elliot and Gable, 2001; Elliot and McGregor, 1999), whereas most studies associated performance-approach goals with negative learning outcomes (Elliot et al., 1999; Wolters, 2003). Mixed results were also found in Eastern studies on performance-approach goals. Most empirical evidence in Taiwan showed more positive effects on the achievement in maths and English (Cherng, 2003; Ho and Hau, 2008; Lau and Li, 2008, Shih, 2008a), self-efficacy (Bong, 2001), and the intrinsic motivation of students (Shih, 2005, 2008b). Though some research results showed no link between the evidence and negative learning outcomes (Cherng, 2003; Shih 2007a), there were some studies revealing negative effects of performance-approach goal (Chan and Lai, 2007; Shih, 2008). These indicated differences exist under different culture contexts that the influence of performance-approach goals appears to be associated with positive outcomes in Taiwan.

Considerable research findings viewed culture and context as central factors influencing motivation and achievement of students. Taiwanese students appears to be more collective than their respective counterparts in Western countries (Yu and Yang, 1987), evidence has shown that collective culture still plays an important roles in the achievement goals students set themselves (Salili, Chiu, and Lai, 2001; Shih, 2008). For example, Taiwanese students have to face the influences that may affect their subsequent achievement in a test condition. Factors such as the extended family as well as the teachers themselves and the expectation within society of success place

added pressure on to the work that students need to do (Salili, 1995). In addition, early research concerning students and their motivation in language learning has suggested a causal link between a successful student academic performance and the possibility to obtain a better job, which may lead to financial and social advancement (Sue and Okazaki, 1991). Thus, results from recent studies have shown that most Taiwanese students appear to pursue performance-approach goals in order to be recognised by their parents, teachers, or their peers (Lai, 2013; Tsai, 2012). Consequently, the findings from these studies suggested considering the effect of culture context in interpreting achievement goals of students.

In addition to the trichotomous achievement goal model, researchers subsequently proposed to incorporate the concept of distinct approach-avoidance with mastery goals as well as performance goal (Pintrich, 2000). The study by Pintrich (2000) divided the participants into four groups based on their goal scores examining the differences in motivational belief, self-efficacy, task value and task anxiety. Students were grouped into high mastery/low performance; low mastery/high performance; high mastery/high performance; and low mastery/ low performance. Pintrich discovered that high master goals were adaptive either coupled with high performance or low performance goals. However, students who adopted low mastery goal tends to be maladaptive coupled with high/low performance goal. Therefore, Pintrich (2000) suggested the idea of 2×2 Achievement Goal Framework initiated by Elliot (1999), which applied approach-avoidance distinction to mastery goals, and further created mastery-approach orientation and mastery-avoidance orientation. Elliot (1999) subsequently proposed a new 4-dimension achievement goal, expanded from previous dichotomous and trichotmous models. He described mastery-avoidance goal as a goal to avoid ‘self-referential or task-referential incompetence’ (p.81). In addition to this, mastery-avoidance orientation tends to avoid the skills and ability deficits and avoid failing to learn or misunderstanding the materials whereas mastery-approach orientation focuses on development of skills and ability, and trying extensively to understand material. The valence of competence between mastery-approach and mastery-avoidance is shown differently. For instance, the mastery-approach is conceptualised as a ‘positive, desirable possibility’ to pursue success while the mastery-avoidance is conceptualised as ‘a negative, undesirable

possibility' to avoid failure. To be more specific, the mastery goal can be used to facilitate learning and lead to positive outcomes, whereas the avoidance may help learners produce negative process and outcomes (Elliot, 2005).

As has been illustrated in recent achievement goal research, competence was designated as a key component in motivational concerns and achievement goal construct (Elliot, 2005). In addition to this, competence can be differentiated into two dimensions, including the way it is defined and the way it is valenced. (Elliot, 1999, 2005; Elliot and McGregor, 2001; Elliot et al., 2011). Competence, subsequently, can be valenced as either positive, approaching success or negative, avoiding failure. It was suggested from the recent research that the valence dimension can be applied to both mastery goal and performance goals, which formed the core of the 2×2 achievement goal framework. A number of empirical research studies have supported the distinction of this structure, and the results were shown to be consistent with the findings of trichotomous models. Performance-avoidance and mastery-avoidance are linked with negative effects on student achievement (Hulleman et al., 2010; Wolters, 2004). The former one has been associated with anxiety, and lower achievement (Elliot and Church, 1997, Elliot et al., 1999; Wolters, 2004; Senko, Hulleman and Harackiewicz, 2011), whereas the latter one is linked with anxiety, lower self-efficacy and lower achievement (Moller and Elliot, 2006). In contrast, research has consistently shown that mastery-approach goals are more likely to link with positive achievement behaviour, such as higher interest, persistence while having difficulty, actively seeking help, self-regulated learning (Darnon et al, 2007; Harackiewicz et al., 2000; Pekrun et al., 2006; Remedios et al., 2008). The findings of performance-approach goals, on the other hand, are less consistent that research, at best, has been mixed and unclear. (Ames and Archer, 1998; Elliot and Church, 1997; Harackiewicz et al., 1998).

Furthermore, Cherng and his colleagues in a series of empirical studies interpreting the approaches of Taiwanese students in achievement-related task situations (Cherng, 2003; Li and Cherng, 2005; Lin and Cherng, 2007; Peng and Cherng, 2005) reported consistent evidence of mastery-approach goals that demonstrated positive effects

which would lead to a better performance for college students. Other research studies conducted in Taiwan also supported this finding that mastery-approach goal is beneficial for EFL college students. (He, 2005; He, Chang, and Chen, 2011). In addition, these studies have revealed a correlation between performance-approach goals and student learning performance, and these have suggested consistent findings with recent experimental research conducted in western culture (Harackiewicz, Barron, Pintrich, Elliot, and Thrash, 2002; Van Ypern and Renkema, 2008).

As supported by previous research, competence works as one essential element within achievement goal structure (Elliot, 2006; Urdan and Mestas, 2006). In addition, it was noted in subsequent research on  $2 \times 2$  achievement goal models that the mastery goal has combined two foci- task-based and self-based goals together which caused an inconsistency in results in assessing the achievement goals (Elliot and Murayama, 2008). Therefore, Elliot's (2005) study suggested considering two components of competence: definition and valence. These components of competence form the structure of  $3 \times 2$  achievement goal model (Elliot, 2005; Elliot, Murayama and Pekrun, 2011). In this model, competence is defined by three different standard evaluations: absolute standard (one's mastery of a *task* itself), intrapersonal standard (*self* attainment), and interpersonal standard (one's performance relative to *others*). Research on trichotomous and  $2 \times 2$  achievement goal model has been based on the concept stressing a mastery-goal commonly involved with task-based and self-based competence while performance goal involved with self-based and other-based of competence. Furthermore, competence is considered as valence in which it has shown to be either positive (approaching success) or negative (avoiding failure). It also has also has close association with the trichotomous model and the  $2 \times 2$  achievement goal model (Elliot and Harackiewicz, 1996). Consequently, the  $3 \times 2$  model (see figure 2.1), rooted in the competence of definition and valence, includes six different constructs: task-approach, task-avoidance, self-approach, self-avoidance, other-approach, and other –avoidance.

		Definition		
		Absolute (task)	Intrapersonal (self)	Interpersonal (other)
Valence	Positive (approaching success)	Task- approach goal	Self- approach goal	Other- approach goal
	Negative (avoiding failure)	Task- avoidance goal	Self- avoidance goal	Other- avoidance goal

**Figure 2.1** 3x2 achievement goal model (Elliot, Murayama and Pekrun, 2011:634)

The structure validity of 3×2 achievement goal model has been confirmed in two studies conducted by Elliot et al. (2011), who examined undergraduates in America and Germany. The findings have supported the proposed 3×2 model that was shown to fit the data more accurately, and it has shown to be a closer structural fit than the 2×2 achievement goal models. In addition to this, the trichotomous model helps to explain why students are engaged in the task or activities. The research findings of the revised model replicated previous works that other-approach goals were shown to facilitate learner performance whereas other-avoidance goals were shown to hinder learner performance. In addition, the differentiations of task-based and self-based goals are shown to fit the data better and are more likely to delineate the concept of achievement goal theory. Seldom have there been cross-cultural studies to examine the present model until recently. In order to enhance cross-cultural understanding, Elliot et al. (2011) argued for the inclusion of extending the focus of Western countries to Asian countries, such as Japan, China, and Taiwan that are assumed ‘to foster somewhat different motivational tendencies’. According to Wu’s (2012) research on examining the cross-cultural influence on 3x2 achievement goal model, a similar finding occurred when research on achievement goals was conducted in western culture and that the revised model is ‘more accurate in its competence-related definition’ (task, self, and others) than other competing models, such as 2×2 achievement goal model, trichotomous and dichotomous models. In addition, his findings also reveal a phenomenon of gender differences in the pattern of 3×2 achievement goal. It was assumed the gender difference exists in the



achievement goal pattern of mathematics, but the results are shown are somewhat unexpected. According to Wu (2012), boys' other-approach goal pattern should be higher than girls for the reason of preferring the subject more, and their stereotype of being more competitive in mathematics. The findings suggesting no difference in gender may be due to pressure from parents and family to perform better and beyond expectation. Assuming this to be the case, it would imply that girls appear to follow social goal and social motivation (as cited in Wentzel, 1999, 2000). However, the same results did not occur when younger children of primary school age participated but showed in junior high students, and this may suggest that the cognitive ability of younger children has not developed well enough to distinguish between 3x2 achievement goal model. His study also suggested incorporating social motivation into achievement goal pattern to examine whether it can better explain students achievement goals.

Research on the 3x2 achievement goal model is relatively limited compared to 2x2 achievement goal models, and the trichotomous model, and little is known about the effects of the 3x2 achievement goal model on cross-cultural examination due to the research being primarily based in western culture and with scant exposure in Eastern culture (Wu, 2012). Hence, the model adapted in this thesis is based on Elliot and McGregor's (2001) 2x2 achievement goal, which has good discriminative, criterion-related and convergent validity and has been highly examined in considerable research concerning Taiwan (Li and Cherng, 2005; Cherng, 2003; Hou, Cherng, and Yu, 2004; Peng and Cherng, 2005; Huang, 2012; Wu, 2012).

In addition, several goal theorists have examined how goal theory functions in different educational settings and have suggested that it does impact and influence the achievement goal orientations of students. Barron and Harackiewicz (2001) in their study suggested that students who perceive performance-approach goals are more adaptive in a competitive learning context. By contrast, students who adopted mastery-approach goals are more likely to develop positive orientation towards learning (Ames and Archer, 1988). Ames and Archer's (1988) study further revealed that the perceived goal orientation of high-achieving students is prevalent in a

homogeneous group, in which student achievement levels were indicated as a predictor in their achievement.

## **2.3.2 Theories on Expectancy**

### **2.3.2.1 Self-efficacy**

Research on the correlation of achievement and the success and failure of learners has been focused on self-efficacy for the past few decades. Self-efficacy is defined as the belief in one's own ability to finish tasks and reach goal, which is able to predict the learning preference motivation of students. Students would experience a sense of efficacy while attaining a goal; that is, their ability to persist the goal is highly related to their ability to succeed in tasks (Schunk 1990). It is suggested that self-efficacy theory has an influence on how people feel, think, and behave, and also to ensure how long each individual will stick to tasks (Bandura, 1993, 1994).

The self-efficacy theory was proposed by Bandura based on his social cognitive theory, suggesting that the self-efficacy that one possesses would have an impact on the choice of activity a person pursues, their efforts and how a person would react to adversities. Based on Bandura's (1986, 1993, 1997) work, he defined motivation as a goal-directed behaviour persistent by outcome expectations and self-efficacy. Outcome expectations concern what leads to the consequences of actions; self-efficacy expectations are beliefs to perform those actions successfully. For example, students may believe a specific action is able to lead to academic success, but they do not believe they have the ability to productively accomplish the action. It is possible for students to have high or low outcome expectation belief but relatively high or low self-efficacy belief for a task. Furthermore, following research focusing student efficacy for performing a task stated that outcome expectations are dependent on self-efficacy. Bandura further explained that 'if you control for how well people judge they can perform, you can account for much of the variance in the kinds of outcomes they expect' (Bandura, 1986:393). Stronger self-efficacy beliefs, as

Schunk explained, are associated with higher goals and appear to have higher probability to remain the goal (Schunk and Swartz, 1993).

Bandura (1982) further indicated four crucial factors in determining one's self-efficacy for a given achievement, which includes previous performance; various learning; verbal encouragement by others; and one's physiological reaction. Further to this, researchers discovered that learners with higher self-efficacy are those who have positive previous performance, higher self-efficacy belief, encouraged by their peers, and have low anxiety symptoms when performing a task (Schunk, 1990). Considerable studies have examined the theory and have found a correlation between perceived self-efficacy and persistence (Pajares, 1996; Schunk and Pajares, 2005; Zimmerman, 2000). According to the theory, people with high self-efficacy are more likely to perceive difficult task as something to be mastered; they try their best to perform the task successfully. In contrast, people with low self-efficacy tend to perceive difficult tasks as threats, and are likely to abandon when they encounter perceived difficulty (Bandura and Cervon, 1983; 1986; Schunk, 1995; Salomon, 1984). In addition to this, self-efficacy was more related to cognitive factors, such as other people's opinion, encouragement and re-enforcement, previous experiences. It is the key element to influence the choice of task, effort, and persistence. (Schunk and Swartz, 1993; Chase, 2001).

It has been suggested that student self-efficacy is associated with academic success (Schunk, Pintrich and Meece, 2008; Lane and Lane, 2001; Wood and Locke, 1987), and it has been shown in some studies as an important mediator of achievement behaviour (Multon, Brown and Lent, 1991; Schunk and Pajares, 2005; Schunk 1981, 1982, 1983, 1987). Research on self-efficacy has supported previous findings that student belief in ability has a significant impact to their achievement in school. In a series of studies in self-efficacy, Schunk (1982, 1983, 1984, 1987, 1996) encountered that self-efficacious students perform better in academic results than those who with lower self-efficacy. Results of these studies support broadly the Social Cognitive Theory of Bandura (1986) that hypothesised self-efficacy as a role of predicting learner's achievement.

Considerable support for the relationship between self-efficacy and academic achievement has been found over the past three decades in different fields, focusing mainly in the field of Science, Maths, and Sports. For example, Schunk (1981) found the effect of self-efficacy belief, persistence, and student performance in arithmetic instruction. Chase, Feltz and Fitzpatrick (1995) also discovered that a positive correlation of higher self-efficacy with not only persistence but also in motivation in the area of sports. There is, however, scant research of self-efficacy within the language learning realm. Hsieh (2004) examined the relationship between students regarding language learning, self-efficacy, attributional belief, and achievement in an actual achievement setting. She confirmed results from the study by Pajares and Miller (1994) that student self-efficacy beliefs are associated with their previous experience, their outcomes, and her subsequent study on self-efficacy and attribution theories in foreign language courses also support the hypothesis that self-efficacy is also a strong predictor to anticipate achievement (Hsieh and Schallert, 2008). Therefore, there is a need to introduce self-efficacy in the field of language learning motivation.

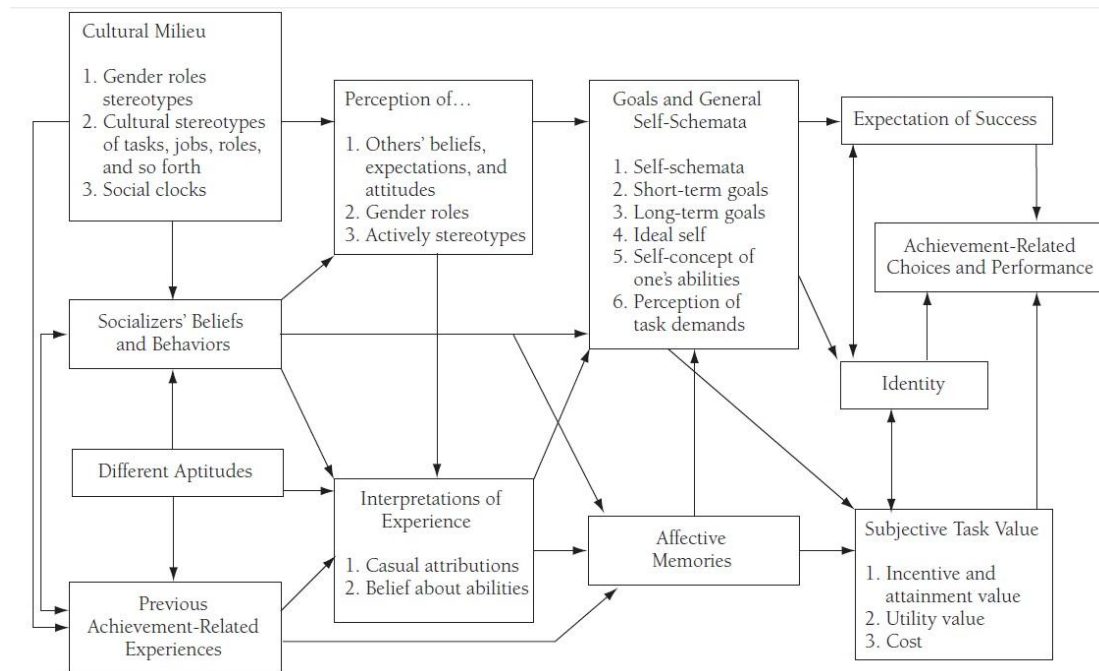
### **2.3.3 Theories integrating expectancy and value**

#### **2.3.3.1 Expectancy-value Theory in language learning**

Expectancy-value theory is viewed as an important mediator of achievement behaviour and has a 'long-standing tradition in achievement motivation research' (Schunk, Pintrich, and Meece, 2008). Two important perspectives form the fundamental expectancy-value construct. It was originally proposed by Lewin (1951), whose findings suggested that learners tended to feel more successful if they meet the goals they set. Lewin stressed two central variables in motivation construct: the degree to which individual expect to achieve the task successfully, and the degree to which individual value the task. Value is considered as 'an affective orientation towards particular outcomes', and is able to lead expected outcomes and furthermore to generate confidence in accomplishing a task (Vroom, 1964). Atkinson (1957) proposed later an achievement theory that combined learner needs, expectancies, and

values, suggesting that learners with high motivation to achieve success would result in greater achievement, whereas learners with a high motivation to avoid failure would result in less engagement in learning activities and less achievement. That is, this suggested that learner motivation to learn a foreign language is closely related to their expectancy beliefs that they are capable of success in the task they value. Thus, components in terms of the values and the expectancy which were associated with expectancy-value theory have been proposed in language learning motivation research.

Modern expectancy-value theories (Eccles et al, 1983; Pekrun 1993; Wigfield and Eccles, 2002) are based on the original expectancy-value model by Atkinson (1957, 1964), in which learner achievement performance, persistence and choice are associated with their expectancy-related and task-value belief (see Figure 2.2). According to large-scale correlation studies by Eccles et al (1983), a revised expectancy-value model focuses on student expectancy belief, their perception of ability for success, and values for the given task. Expectancy belief is defined as individual competence to meet the standard of success, and the values for the given task is determined by the task value and also the needs and goals of the individual. Eccles et al's revised model is different from the theory proposed by Atkinson in the way that the expectancies and values are positively related to each other and it is "more social cognitive in nature to reflect the current cognitive paradigm of motivation" (Schunk et al, 2008). In addition, both components in revised expectancy-value model appear to be more developed and both components are influenced by culture and the effects of social interaction by schools, peer, or family.



**Figure 2.2** The Eccles et al. expectancy-value model of achievement (Eccles et al., 1983)

Research on expectancy-value suggests a higher correlation between student competence belief (their expectancies) and their performance in comparison with the task value. (Conley, 2012; Eccles, 1983; Hood et al., 2012; Wigfield, 1994; Wigfield and Eccles, 1992). Eccles and her colleagues in their series research discovered that student performance expectancies are an indicator by which performance in Maths and English is able to be predicted, and how they value the task is able to help the students decide whether or not to enrol in Mathematics, Physics and English courses (Eccles, 1987; Eccles et al., 1983; Fredricks and Eccles, 2002; Wigfield et al, 2006). These findings suggested reconsidering the link of expectancies and values to performance. Consequently, the subsequent studies on learner expectancy-value focus on the relationship between the competency belief of people and the task values. According to model of Eccles et al (1983) and the Self-efficacy Theory by Bandura's (1997), competence beliefs and values are positively related to one another. A longitudinal study by Wigfield et al (1997) discovered a significant relation between the competence belief of young children and their valuing of different activities. The findings of the research corresponded to similar studies using real-world achievement tasks that decided both of components are essential for a successful learner outcome.

Considerable research on expectancy-value model has done to examine whether there are differences between gender and ages (Wigfield and Eccles, 2002), and even fewer pieces of research have examined whether culture does influence student expectancies and values, and their performance. Researchers examined the factor analysis of the belief of children about their ability in different culture in order to find out if there is a similarity between children from Eastern and Western cultures. Hau, Kong, and March's (2000) study found out that the factor structure of Hong Kong students' response replicates in western culture. A similar finding was found in Stigler, Smith and Mao's study (1985) investigating the expectancy-value between Taiwanese students and American students. Further to this, in the present studies of motivation, a trend is found to use expectancy-value theory as a way to examine student motivational factors in Eastern culture (Shaaban and Ghaith, 2000; Wen, 1997). Research investigating Asian student learning motivations appears to adopt the theories focusing on integrating expectancy and value (expectancy-value theory and attribution theory) to explain student motivations towards learning (Salili *et al.*, 2001; Wen, 1997).

### **2.3.3.2 Attribution Theory in Language Learning Motivation**

According to Eccles and Wigfield's (2002) study, attribution theory is assumed to integrate with expectancy and value construct because the attribution model comprises belief about one's ability and expectancies, together with the reason to engage in a task. Furthermore, another reason of being categorised into this section is due to the link with Atkinson's framework of expectancy-model in achievement motivation.

Attributions, or the causes of an outcome, play important roles in learner achievement behaviour, expectancy and belief. Attribution theory has been a major focus in motivation theories for the past few decades, which aims to examine how individuals explain their cause of an outcome and how their belief may affect their behaviour and motivation (Diener, 1978, 1980; Dweck and Elliott 1983; Weiner,

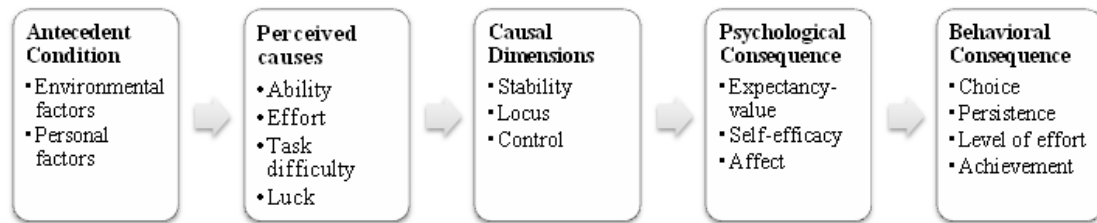
1986). Attribution theorists concern about the process how an 'individual interprets events as being caused', instead of focusing on the results of the outcome (Kelley, 1967). That is, learners would endeavour to discover the reason why they have not performed in a test scenario. In this view, by locating their causes of failure, learners are able to control the event and attempt to avoid failing again. The reasoning process influences student behaviour, and further, their expectancy of success, self-efficacy, performance, and their persistence in a given task. This process formed the concept of attribution theory that individual attributions “*determine subsequent achievement strivings and, thus, are key motivational belief.*” (Eccles and Wigfield, 2002).

There are numerous attributions or perceived causes that learners are able to explain the reason of their success or failure in learning. The most frequently used attributions were identified by Weiner's (1992) model which includes: ability, effort, task difficulty, and luck. According to his motivational model, these attributions can be grouped into three casual dimensions: locus of control; stability; and controllability.

The dimensions influence the psychological force and further determine student behaviour in achievement tasks (Figure 2.3). The locus of control refers to internal (dispositional) or external (situational) control to an individual which is closely related to self-esteem. In this case, luck and task difficulty are categorised into external control, whereas ability and effort are categorised into internal control. The stability dimension indicates whether the cause would remain the same or change over time, which can be refers to fixed or variable. That is, ability and task difficulty is regarded as stable attributes, while effort and luck is regarded as instable. The controllability dimensions captures whether the individual can control the cause; that is, causes that a person can control such skills or efficacy, but this do not include aptitude, response from others and luck (Weiner, 1985, 1986). In that case, effort is classified as controllable for the reason that learners are able to decide whether to make more efforts on a particular task. The process of the general attributional model is shown in Figure 2.3 adapted from Schunk et al. (2008), and is based on work by



Weiner (1979).



**Figure 2.3** The attributional process of the General Attributional Model (Schunk et al, 2010)

As stated in previous research that attributional process was viewed as one singular crucial factor influencing student expectancy and belief (Graham, 1991). Attribution theory has been linked with achievement motivation in a learning context, and has been used to explain the difference in motivation between different levels of achievement. According to the attribution theory, students with high academic achievement will approach a task to succeed instead of avoiding the task, for the reason that they are confident of their ability and effort which will attribute to their success in learning. However, students with low academic achievement tend to avoid success-related tasks instead of approaching them. This is because they do not have the confidence in their ability and will assume success is related to luck. Thus, students with a higher motivation and higher achievement are more likely to attribute their success to ability (internal, stable, and uncontrollable) but attribute their failure to bad luck or a difficult task, while students with a lower motivation and with lower achievement tend to attribute their failure to efforts or task difficulty but consider their success as a matter of good luck.

In addition to these common attributions from personal factors of learners, there are other causes which may explain why learners succeed or fail. Research studies have suggested that situational factors, such as specific information and social norms would also have influences on student belief about competence, how they undertake the tasks, and motivational variables (Weiner, 1977, 2000; Pintrich and Blumenfeld, 1985; Schunk et al., 2008). For example, in specific information, students may have

more positive effects and belief about their competence in success if they receive positive appraisal from their teachers. Moreover, in social norms, how a subject is perceived in a culture may also influence the actual attribution to explain about their success or failure in an achievement task (Schunk et al., 2008). Certain empirical evidence has concluded that students tend to show higher self-efficacy and higher skills than their peers who do not receive feedback from their teachers (Schunk 1983), and higher efficacy is able to facilitate students in maintaining motivation.

The relationship between these attributions and achievement in the learning domain have become clearer in recent considerable studies that applied Weiner's theory inferring a casual relation between attributions and academic performance (Basturk and Yavuz, 2010; Lei, 2009; Lei and Qin, 2009; Hsieh, 2004; Hsieh and Schallert, 2008; Ong, 2006). In addition, most of these research studies are focussed on achievement in mathematics. For instance, high achievement amongst students is found to have a relationship between attribution of success to effort (Bempechat et al., 1996), and student belief about how Mathematics is learned (Kloosterman, 1991). Furthermore, Yeung and Yeung (2008) examined the influence of ability and efforts on the academic outcomes among students in Australian and Hong Kong. Their study confirmed that student ability and effort are associated with their achievement, and they suggested, in addition to this, that there is a significantly positive correlation between effort and achievement ( $r_s = .20$  for Australian students and  $r_s = .26$  for Hong Kong students). Accordingly, their findings support previous motivation research that proved a strong correlation between efforts and performance outcomes (Gehlbach, 2006; Gutman, 2006; Meece *et al.*, 2006; Pintrich *et al.*, 1993; Senko and Harackiewicz, 2005; Wentzel, 1991). However, there are few results explaining the correlation between attributions and language learning achievement in the previous research (Skehan, 1991; Oxford and Shearin, 1994). The attributional process has turned to be a focus in language learning motivation in this decade (Dornyei, 2001, 2003), and few researchers have attempted to examine the effect of attribution in language learning outcomes (Hsieh, 2004; Pishghadam and Modarresi, 2008; Hsieh and Schallert, 2008; Hashemi and Zabihi, 2011; Yazdanpanah, Sahragard, and Rahimi, 2010).

Subsequently, the current research on attribution theory in language learning aims to construct a scale measuring attribution theory for foreign language learners. Hsieh's (2004) study applied the Revised Casual Dimension Scale (CDS), which was developed by McAuley, Duncan and Russell (1992), comprised of twelve items assessing four sub-scales, including locus of causality, stability, personal control and external control. By applying CDS in her research, Hsieh (2004) intended to measure the casual attributions of students and their success and failure in their language performance. In her study, students were asked to rate the degree of attribution that influence their test results, such as effort, ability, task difficulty, mood, luck and teacher. Her findings supported previous research that students with higher level of self-efficacy and higher achievement are more likely to attribute their failure to internal or unstable reasons, lack of effort than those who attributed their failure to external, stable and lack of luck. By contrast, students who attribute their success to internal factors have higher self-efficacy and better achievement than those who attribute their success to external factors. However, the attribution model shows a different finding when research is done in different context. Hashemi and Mashhad's (2011) research revealed a low reliability in the items ( $\alpha = .60$ ), and the reason of the low reliability of scale is because the numbers of items is small, and each item measured a different attribution. Their study concluded that student language learning achievement can be predicted by their effort and task difficulty, and this has demonstrated that students are more likely to get higher grades in tests once they attribute their outcome to efforts.

Previous research on the attribution theory illustrated the possible variables that contribute to learner success and failure, suggesting that learner age (Williams and Burden, 1999; Graham, 2001), gender (Nelson and Cooper, 1997), behaviour, teacher and family influence (Hong, 2001; Gao, 2008) are strong attributive factors. However, most research in attribution theory was conducted in the West, and there are only a few research studies on the different cultural context. As researchers suggested people with different ethnic backgrounds and cultures will have different perceptions of attributions in success and failure in language learning (Gray, 2005; Schunk et al., 2010). For example, Eastern culture appears to be more collectivist compared to the Western individualism, in which children's high academic

achievement was viewed as an honour to the family and even as a glory to society (Suzuli, 1980). Consequently, environmental factors, such as family, peers, and society play as important features that determine academic behaviour and performance (Wilson and Pusey, 1982; Suzuki, 1980; Grant and Dweck, 2001).

Subsequently, researchers in attribution theory have proved that Western students believe ability is the key factor to achieve success and a lack of ability is the reason for failure (Rotter, 1971; Gray, 2005). By contrast, some research evidence suggested that Asian students are more likely to describe their effort as a major reason for success rather than their ability, or luck than their Western counterparts (Grant and Dweck, 2001; Shikanai, 1978; Hess et al., 1982). Fry and Ghosh (1980) in their study confirmed the previous research findings that while Western students tend to attribute their success to internal reasons, while Eastern students are likely to attribute their success to external reasons.

As for the learning setbacks, Eastern students are more likely to ascribe their failure to an internal cause, such as a lack of ability or effort (Grant and Dweck, 2001). Stevenson and Lee (1990) in their study illustrated the differences by comparing mathematical success among American, Chinese and Japanese students. Students in both these Asian countries (Chinese and Japanese students) believe efforts, as one of the most important value among Asian students, are the key factors for their success, whereas Americans emphasised their innate ability. In addition, research investigating Chinese student motivation designated effort as a significant effect in a language learning context. It is a broadly cultural belief to value hard work (effort) over the centuries. Chinese students tend to believe that their efforts may lead to more pleasing outcomes and academic success. In other words, students who fail in an examination will feel terrible and think that they had not applied all their efforts to accomplish the goal (Hong and Lam, 1992; Lee, 1996). As Dickinson (1995) stated, 'personal effort, unlike ability or chance, is within the control of the student' and this shows that effort is a significant learning motivation attribution within Chinese culture.

Recent studies examining cultural variations have suggested a range of factors that influence student behaviour and achievement in East Asian context. For example, according to Littlewood's (1999) research, he argued that East Asian students are more interdependent with other students and they are more ambitious to achieve and prepared to put a lot of efforts in their learning. Subsequently, East Asian students are expected to have higher motivations to achieve the tasks which they had set as a value to reinforce the motivation which is socially oriented, and to emphasise more on their performance among peers and in the classroom. Littlewood reviewed relevant studies on inter-cultural differences and concluded that conducting a research with respect to inter-cultural difference may guide a teacher to a better understanding. In addition, Nelson's (1995) finding also confirmed that by observing how the notion of inter-cultural differences may be able to benefit language teachers. This can lead to a better understanding of individual differences of students and further provide support for teachers in how best to address the students, what types of attitude students will hold towards their work and how best to deal with their behaviour.

#### **2.3.4 Theories integrating motivation and cognition: Self-regulation**

Findings in motivation theories have supported that learner competence, expectancy and belief are effective predictors of their performance, and how learners value the task gives an insight into the reasoning behind their engagement. However, these theories do not deal with the process of attaining the goals. Cognitive models, on the other hand, focus on the issues of describing how learners understand and master task via using cognitive resources and strategies (Garcia and Pintrich, 1994). Accordingly, there have been several theories of motivation appearing to discuss the effectiveness of integrating both motivation and cognition together. These theories focus on how learners keep their cognition and behaviour in order to achieve their goals (Ames, 1992; Boekarts et al, 2000; Eccles and Wigfield, 2002; Pintrich and Schrauben, 1992; Schunk and Zimmerman, 1994), and further how their cognitive strategies are linked to motivation (Pintrich et al, 1993). The main focus in this field is self-regulation.

Self-regulation is defined as the cognitive process for learners to attain their objective through sustainable cognition and certain activities (Bandura, 1991; Zimmerman, 1995, 2008). According to Bandura (1991), learner behaviour is highly motivated and regulated by the 'on-going exercise of self-influence'. That is, one of the crucial elements for learners to achieve their goals is to regulate their motivation. Self-regulated students act cognitively and behaviourally in achieving their goals (Zimmerman, 1989), and they believe that these self-regulatory activities will help them to succeed. Thus, it has been supported by considerable research that self-regulation is able to promote student learning (Pintrich, 2004; Zimmerman and Schunk, 2004). According to Zimmerman (1990), students with higher self-regulation are actively in learning process, perform efficaciously, and set goals for themselves. There are three processes comprised in their learning: self-observation, self-judgement, and self-reaction. Self-observation refers to monitoring one's behaviour; self-judgement refers to evaluating one's own performance; compare to the standard; and self-reaction refers to the cognition, behaviour and response to self-judgement (Eccles and Wigfield, 2002; Schunk et al., 2010; Zimmerman and Schunk, 2004). Learners who engage in the process of evaluating their performance are able to promote motivation, which enable learners to persist longer in a task and will lead to better performance (Kanfer and Gaelick, 1986).

In addition, as stated in previous research, successful and motivated learners are those who develop strategies to keep their motivation and to engage in activities that they enjoy (Ushioda, 2001). There have been certain skills and strategies that learners need to develop with the purpose of sustaining their goals. Such strategies used for regulation are discussed in terms of motivational strategies (Dornyei, 2001), cognitive learning strategies (Weinstein and Mayer, 1986), and regulatory learning strategies (Dornyei and Otto, 1998). Motivational strategies are the processes which have a correlation with the individual's goal; learners with this strategy are able to regulate their motivation through sustaining positive self-worth. According to Weinstein and Mayer (1986), cognitive learning strategies, including rehearsal, elaboration and organizational strategies are related to learner academic performance (Pintrich, 1989; Pintrich and De Groot, 1990). Besides motivational and cognitive

strategies, learner self-regulatory strategies are related to their achievement by monitoring, controlling and regulating their own cognitive activities and behaviour (Garcia and Pintrich, 1994).

Another focus in self-regulations is its link with self-efficacy. Schunk and his colleagues discuss the correlation between these two motivational variables and suggested further that learners' behaviour and their self-efficacy move up if the goals are proximal and specific (Schunk and Zimmerman 1996, Schunk and Ertmer 2000). Pintrich and De Groot's (1990) examined the performance of 173 seventh grade student performance and the correlation between aspects of motivation and self-regulated learning by using a Motivated Strategies for Learning Questionnaire (MSLQ), a tool first developed by McKeachie and Pintrich to assess student motivation and self-regulated learning (Duncan and McKeachie, 2005). The findings indicate higher levels of self-regulation are positively correlated with higher levels of self-efficacy and task value. Their research has provided *"an empirical base for the specification and elaboration of the theoretical linkages between individual differences in students' motivational orientations and their cognitive engagement and self-regulation in a classroom setting"* (Pintrich and De Groot, 1990:37). Accordingly, self-regulations are able to help learners set goals and develop self-efficacy for attaining the goal. Therefore, it is one key motivation that should be discussed in the field of language learning.

## **2.4 Effects of Ability Grouping on Motivation**

Ability grouping has been defined as a practice to group students into different classes/groups based on their level or ability (Cheung and Rudowicz, 2003; Kulik, 1992). A great deal of research on ability grouping has raised attention to whether classes should be composed of students with similar or different ability, as noted from research by George and Rubin (1992) indicated that there have been more than 500 studies on ability grouping over the last fifty years. The effects of ability

grouping on student achievement have been widely studied and reviewed for several decades (Kulik, 1992; Slavin, 1990).

The early works on ability grouping have been conducted mainly in primary and secondary education. Initially, it was put into practice by placing students into small groups within classes in primary school, which is still the most common grouping type at primary education level in American (Slavin, 1993). On the other hand, according to Slavin's (1990) study, the grouping types used in secondary school and in college are 'overwhelmingly between-class grouping', where students are placed into groups based on their ability and achievement in order to facilitate the class by providing instruction paralleled to the level of the group. Correspondingly, the advantages and disadvantages of practicing ability grouping in education have raised certain degrees of attention in a great deal of research studies (Kulik, 1992; Slavin, 1990, 1993; Tieso, 2003; Liu, 2008). Supporters of ability grouping believe that it will help teacher adapt their instruction to the needs of the groups, which further makes teaching easier. Students will also benefit from this class setting and lower achievers are able to receive more effective and appropriate support while high achievers have their interest stimulated and incentivised by having more challenging tasks to complete.

However, opponents hold the opinion that ability grouping discriminates against lower-class and minority students (Braddock, 1990), and students at lower levels receive lower quality of instruction in comparison to their higher ability peers (Gamoran, 1989; Oakes, 1985). In addition, critics propose that students at the lower level may lose the chances to observe and stimulate from other high-performing peers. Consequently, there are some differences between proponent and opponent groups from their arguments of ability grouping. That is, arguments in favour of ability grouping concern more with the 'effectiveness' of instruction, while arguments opposed to ability grouping focus more on 'equity' between groups (Slavin, 1990; Braddock and Slavin, 1992).



Literature on the effects of ability grouping has been conducted extensively. A lot of research has discovered that students of different ability levels perform differently in terms of their motivation and achievement in ability groups. A meta-analysis conducted by Lou et al.'s (1996) reviewed 12 studies and further compared the results from the homogeneous or heterogeneous ability groups. Their research results indicated that homogenous groups are better for average-ability students, heterogeneous groups are able to help low ability students learn more and perform better, and both groups reach the same results for students of high ability. In subsequent research, Saleh et al. (2005) examined student achievement, social interaction and their motivation under grouping arrangements. Students at three different levels (high, average, and low ability) were randomly assigned into two different groups: homogeneous or heterogeneous ability groups. Their research findings were consistent with the results from the study by Lou et al.'s (1990), which revealed that students at low-ability are motivated and achieve better in heterogeneous groups; students at average-ability students, on the other hand, perform better in homogeneous groups; as students at high ability show correspondingly good performance in both homogeneous and heterogeneous ability groups.

Research on the ability grouping has supported the idea that students at different ability groups perform accordingly with whether they are assigned to homogeneous or heterogeneous classes. The consistent findings were found in low-ability students that students at lower levels perform better in heterogeneous groups where they are more likely to receive support from their more capable peers (Hooper and Hannafin, 1991; Saleh et al., 2005). However, the findings of research on high-ability students concluded differently. Some researchers found high-ability students perform better for the reason that teachers give more instructions in heterogeneous groups than in homogeneous groups (Webb, 1991). However, some researchers encountered better achievement among high-ability students in homogeneous groups, in which they may generate more cognitive learning with their equally capable peers (Fuchs et al., 1998; Hooper and Hannafin, 1991). Researchers also found no difference in high-ability students in both ability groups, which they typical perform well whether they are place in groups with same ability or lower ability peers (Hooper et al, 1989).

There is considerable research where the findings illustrate the arguments for and against ability grouping classes; however, the major concern of whether homogeneous grouping is better than heterogeneous for both teachers and learners is still under debate. Research on ability grouping in Taiwan also shows a high interest in its effectiveness and how learners perform in different ability groups. Ability grouping has been practiced and studied in primary and secondary education for several decades. As researchers began to discuss the influence of the ability grouping arrangement, the debate of whether to apply ability groups in secondary education has raised certain degrees of dispute. In tertiary education in Taiwan, ability grouping has turned out to be common practice, especially in college English classes. Research findings have supported the previous studies that students with positive attitudes are able to benefit from ability groups (Yu, 1994; Liu, 2008; Chen et al., 2004). Yu's (1994) study examining 2,448 students in Soochow University concluded that students believe this grouping setting helps them improve their language ability. Consequently, students agree that ability grouping is able to build their confidence and is also beneficial to build their English learning (Liu, 2008). Most of the studies on ability grouping in Taiwan mainly focus on student and teacher attitudes; therefore, this thesis aims to focus on its correlation between other achievement-related variables, specifically in motivation theories listed in the previous section.

## **CHAPTER THREE**

### **THE INTEGRATING OF MOTIVATION THEORIES**

#### **3.1 Overview**

This chapter discusses relevant studies integrating different motivation theories into a theoretical framework. The aim of this research is to find a more complete model integrating different motivation theories in order to interpret the performance of Taiwanese students in language learning and understanding. Recent studies have investigated the motivational factors that lead to student better achievement in language learning (Ames, 1992; Gardner and Lambert, 1972; Conley, 2012; Gardner and MacIntyre, 1991; Hsieh, 2004; Masgoret and Gardner, 2003; Molden and Dweck, 2000; Oller, 1981; Oxford and Shearin, 1994; Pintrich, 2000; Tercanlioglu, 2004; Zimmerman, 1989). Based on these studies, factors such as expectancy-value, instrumentality, Gardner's social-educational model, self-efficacy theory, achievement goal theory, self-regulation theory and attribution theory are consistently being examined by research as predictors of student language achievement. In order to interpret student achievement in class, various theoretical frameworks have been examined to explain the correlation between attitudes toward various motivational variables and their achievement. This includes Gardner's (1985) social-educational model of second language learning (Shaaban and Ghaith, 2000; Shams, 2008; Wen, 1997), Elliott and McGregor's (2001) achievement goal structure (Elliott and McGregor, 2001), Pintrich et al.'s (1991) self-efficacy model (Wu and Tsai, 2006; Bong, 2001), Wigfield and Eccles's (2005) expectancy-value model (Shaaban and Ghaith, 2000; Mori and Gobel, 2006), Weiner's attribution theory (Hsieh, 2004; Hsieh and Schallert, 2008), and self-regulation theory (Wigfield and Eccles, 2002; Al-Harthy et al., 2010). However, there is little study that examines the integration of all these motivational variables concurrently in the language learning field. This chapter reviews current literature on integrated motivational constructs and discusses related studies.

### **3.2 Relevant research into integrating different motivation theories**

The interest of examining the relationship between various motivational variables has increased in recent years, and this section presents the relevant research that integrates different motivation theories (Table 3.1). This section gives an exploration of current studies on the integrated motivational constructs and is divided further into five major parts, including the integration of expectancy-value and social-educational model, the integration of expectancy-value and self-regulation, the integration of expectancy-value, self-efficacy, achievement goal, and self-regulation, the integration of self-efficacy and self-regulation, and the integration of self-efficacy and attribution. It is worth examining the findings from the previous work for the rationale of selecting the theories of this study.

#### **3.2.1 Integrating expectancy-value theory and Gardner's socio-educational model**

Several empirical studies have found consistent support that Gardner's socio-educational model of integrative and instrumental goals is an effective factor in language learning (Gardner and MacIntyre, 1991). A study undertaken by Wen (1997) incorporated these dichotomous goals with expectancy-value theory and intrinsic efforts in investigating the motivation of Asian and Asian-American undergraduate students in Chinese language learning at two different levels. Her research findings suggest that learner instrumentality is significantly correlated with their expected learning strategies and efforts. In addition, learner expectation of the task and their competence are the key predictors for them to choose and attain in Chinese learning. That is, learners who are motivated to learn Chinese for certain purposes appear to have higher expectations and effort to sustain their goals.

Subsequently, Shaaban and Ghaith (2000) in their study examined 180 undergraduate students at two different levels in English learning by adapting Wen's (1997) motivation scale. They used a combination of integrative and instrumental

motivation, expectancy-value motivation and self-estimation of ability to examine Lebanese student motivational determination to learn English. Their study reveals significant internal correlations between integrative motivation, effort, valence, expectancy and ability. Unlike Wen's (1997) findings, instrumental motivation is only merely related to integrative motivation and valence instead of positively related to learner expectation, efforts, and achievement of learning goals as previous research suggested. In addition, findings revealed that students of different gender and level perform differently in their motivation to learn English; that is, lower level and female students are more likely to be motivated to learn than their higher performing and male counterparts.

However, some critics argue the generalizability of Gardner's social-education model in second language learning motivation. Mori and Gobel (2006) in their combined two motivational models, include expectancy-value theory and Gardner's socio-education model to examine Japanese undergraduate student learning strategies towards learning English. Their findings reveal a significant difference between male and female students, and further indicate that female students score higher in integrative motivation. Their results question its relevance in a different context and whether it can be generalised to EFL learning. Thus, recent research suggests finding new conceptualisations and theoretical framework to best interpret learner academic behaviour and outcomes. This indicates that combining of expectancy-value and Gardner's socio-educational model is related but the inconsistent results were shown in different studies.

### **3.2.2 Integrating expectancy-value theory and self-regulation**

As stated in section 2.3.3, expectancy-value (Eccles et al. 1983; Wigfield and Eccles 2001) posits that student outcomes depend on how confident they are about their competence (self-efficacy) and how much they value the task (task value). Wigfield and Eccles further noted that the competence and efficacy beliefs are covered mainly in the self-regulation model; thus, they proposed the integration of the expectancy

model and the self-regulation theory in their follow-up studies (Wigfield and Eccles, 2000, 2001, 2002). Their longitudinal study examines the link between student learning outcome and the integration of the expectancy-value theory and the self-regulation theory among primary school students ages 6-18. The findings suggest that students who associate their competence and the task value with their learning outcomes are more likely to have an impact on self-regulation and further achieve their goals. This indicates that the combining of the self-regulation and expectancy-value model is able to 'address the nuances of performance and choice more clearly' (Wigfield and Eccles, 2002:111).

### **3.2.3 Integrating expectancy-value theory and achievement goal theory**

Considerable research has discussed the impact of expectancy-value on academic achievement cooperatively with different motivational variables, such as Gardner's socio-education model (see section 2.3.1.1), achievement goal theory (Hulleman et al., 2008; Conley, 2012), and self-efficacy (Bong, 2001; Pintrich, 2000; Liem et al., 2007). Hulleman et al. (1995) proposed two studies integrating three motivation theories, which include expectancy-value goal, achievement goal and interest theory to assess predictors and consequences of task value in classroom and sports contexts. In their first study, college student antecedent (named as achievement goal) and their consequence (named as academic performance) of task value was examined, whereas their second study examined the perception of task value by high school athletes of their achievement goal, and their performance at a sports camp was also examined. The research findings reveal a positive link between mastery goals and perception of value, and further indicates a significant relation with academic performance inconsistent with previous research (Walker, 2012). In addition, they conclude that performance-approach goals can successfully predict learner performance in both studies from different contexts and different ages. Their findings indicate that integrating different motivation constructs develops 'a more complete understanding of optimal motivation (Hulleman et al., 2008).

A person-centred approach study undertaken by Conley (2012) integrated expectancy-value goal and achievement goal to assess seventh grade student expectancies, value and achievement goals, which include mastery goals, performance-approach goals and performance-avoidance goals in mathematics classes. The findings from Conley (2012) confirm previous research on achievement goal that mastery goals and performance-approach goals are positively associated with higher achievement. Their findings suggest the importance of exploring these motivational variables together to improve predictions, and shape academic achievement and behaviour.

Taken this suggest of considering more motivational variables into the study, little research combining self-efficacy theory and expectancy-value aims to form a more complete theoretical framework. As stated in section 2.2.4 that self-efficacy has stronger influence on academic performance (Pintrich and Schunk, 1996, 2002), and which are frequently examined in recent study to better understand ‘student motivational dynamic’ (Liem, Lau and Nie, 2008). For example, Bong (2001) undertakes a study examining whether secondary school student motivation constructs are different by using self-efficacy, task-value, and achievement goal orientation in different subject domains, which include Korean, English, Mathematics and Science respectively. Results from confirmatory Factor Analysis reveal that between-domain relations are different in each motivation construct, and their findings indicate that performance-approach goal, performance-avoidance goal, and self-efficacy were positively correlated between different domains. Their research examines further the relations of these motivation constructs within different domains, and the findings suggest that the motivation factors (self-efficacy, task value, mastery goal, and performance approach, and performance avoidance) are consistent with previous findings that correlated with one another (Meece et al, 1990; Middleton and Midgley, 1997).

Consequently, in another similar study conducted in Asia, Liem et al.’s (2008) use a combination of self-efficacy, task value and achievement goal to examine the English learning strategies of a group of Singaporean secondary school students and

their achievement outcomes. Their findings also indicate that self-efficacy is a predictor to English achievement and suggest goal mastery and performance-approach are able to predict positive learning strategies and further lead to adaptive outcomes.

### **3.2.4 Integrating self-efficacy theory and self-regulation theory and achievement goal theory**

Self-efficacy has been proved to associate with the self-regulated learning process, which works as a strong predictor in academic performance (Pintrich and Schunk, 2002; Zimmerman, 1990). According to self-efficacy theory, students with a higher level of self-efficacy are more likely to accomplish the tasks, demonstrate adaptive academic self-regulation patterns, and sustain their goals (Bandura, 1993; Pintrich and DeGroot, 1990; Williams, 2004). Recent research has supported a significant and positive correlation between self-efficacy and self-regulation, and both motivation constructs are found to lead better academic outcomes. As a result, few research studies attempt to examine the impact of integrating self-efficacy and self-regulation constructs to learner academic behaviour and outcomes.

For example, Chularnt and DeBacker (2004) in their study examined different levels of student achievement, self-regulation and self-efficacy by using a learning strategy in English as Second Language (ESL) classrooms. Their research results have supported the notion that higher levels of self-efficacy can lead to higher achievement in English learning contexts, while increased self-regulation attribute to higher achievement and increased self-efficacy. In addition, their findings suggest that students at higher levels of ability in English achieve a higher score in self-regulation and self-efficacy when compared with their lower performing counterparts. Subsequently, Kuo's (2010) research examined three types of interactions: self-efficacy and self-regulation in predicting undergrads and the satisfaction level of graduated students regarding on-line learning courses. Findings from regression analysis suggest that the predictors (interactions, self-efficacy and



self-regulation) account for 50% of the variance in student satisfaction. Therefore, it suggests a link between self-efficacy and self-regulation in student positive academic outcomes and the results also suggest a consistent finding with previous research (Bouffard-Bouchard et al., 1991).

Additionally, a number of studies focusing on self-regulated learning (self-regulation) in achievement task would also link to achievement goal orientation (Ford et al., 1998; Schunk and Ertmer, 2000). Research has proved a positive relation between these motivational variables and self-regulation. For example, Middleton and Midgley (1997) in their study investigate primary school student achievement in Mathematics and its relations with different motivational variables, such as self-efficacy, self-regulation, and their academic goals. Their findings indicate a correlation between performance-approach and performance-avoidance goals ( $r = .56$ ), and subsequently conclude that goal mastery is able to predict academic self-efficacy and self-regulation. By contrast, performance-approach goals show opposite results that it did not significantly predict self-efficacy or self-regulation. In addition, performance-avoidance goals were found negatively to predict self-efficacy in their study. A study undertaken by Al-harthy and Was (2010) attempts to examine the inter-correlation between different motivation theories and the relations between the academic achievement (test scores) and these motivational variables. The study combines factors based on self-efficacy theory, expectancy-value theory (task value), achievement goal orientations (mastery, performance-approach and performance-avoid goals), and self-regulation theory to examine the academic performance of undergraduate students in a psychology course. Their research findings show relations between self-efficacy, task value, goal mastery, performance-avoidance and student achievement. Results of path analysis show that self-efficacy accounts for the most variance in academic achievement, which is consistent with the previous research that students with higher levels of self-efficacy appear to perform a task more successfully than those with lower levels of self-efficacy (Bandura, 1993, 1997; Schunk, 1981; Zimmerman, 2000; Chularut and DeBacker, 2004). In addition, their findings also reveal some factors failed to show relations with other variables. For example, there is no relation between

performance-approach goal and other variables, and factors, such as goal mastery and self-regulation do not have an effect on test scores.

### **3.2.5 Integrating self-efficacy and attribution theory**

As stated in previous section, studies have shown that self-efficacy works a significant predictor to one's academic performance. Similar to self-efficacy, attribution theory, which is 'contributed to an understanding of student beliefs and explanations of their achievement' (Hsieh and Schallert, 2008) is frequently linked to student academic performance in recent motivation research. Thus, it is suggested that by combining self-efficacy and attribution to examine student performance allows researchers to have a better understand of learner motivation to learn and their choice. Few research studies reported that one's self-efficacy is associated with how he/she attributes the outcomes in different domains, including sports (Chase, 2001; Sherman, 2002), foreign/second language learning (Tremblay and Gardner, 1995; Hsieh, 2004; Hsieh and Schallert, 2008).

Tremblay and Garner (1995) first select a theoretical framework that combines different motivations such as goal salience, valence, self-efficacy and causal attribution to examine secondary school student attitude in language learning. The results reveal a different finding compared with previous research on self-efficacy that it was only related to learner academic behaviour rather than to predict their academic achievement in class. Consequently, Hsieh and Schallert (2008) integrate these two constructs to examine 500 undergraduates on how their beliefs relate to their self-efficacy and attribution response in foreign language learning. Findings from their study show that self-efficacy and ability attributions can best predict achievement. In addition, students who attribute failure to lack of effort appear to have higher levels of self-efficacy. It was consistent with previous research that student perspective of self-efficacy is different depending on which language course they chose.

### 3.3 Summary

In summary, this section overviews a number of theoretical frameworks which integrate total six different motivation theories, including expectancy-value, self-regulation, instrumentality, achievement goal theory and self-efficacy theory, in order to interpret student academic performance in classrooms. Results from these integrated motivation theories show a positive relation to learner achievement. However, these research studies in language learning motivation with regard to language levels of learners show inconsistent findings. For example, Gardner *et al.* (2004) examined the certain variable change in integrative motivation in a yearlong French course and reported that there was very little change for students with a higher level regarding their learning attitudes and motivation for their course. These findings further confirm the study by Shaaban and Ghaith (2000) that highlighted that higher intermediate students were less motivated than intermediate students. Controversially, Coleman (1995) indicated that there is a correlation between integrative motivation and a higher level of language ability. Moreover, Sung and Padilla (1998) reported that ‘advanced level students [studying Asian languages] scored significantly higher in instrumental and integrative motivation to learn a foreign language than did beginning-level students’ (p. 215). Tweles’ (1995) study stated that there is no high correlation with student motivation and their language ability, and the research results show controversy about whether there is a significant correlation between student level and their learning motivation.

In addition, there is no research integrating all these motivational variables into one theoretical framework to assess its link with learner achievement in English learning, Given that reason, this study considered three focuses in researching student motivation in language classroom:

- (1) to examine which of these motivational variables can best predict learner academic achievement;
- (2) to examine whether learner level is able to determine these motivational variables for learners to learn English;

(3) to examine inter-correlation between student attitude towards motivational variables (Instrumentality, Expectancy-value, Achievement Goal, Attribution Theory, Self-efficacy, and Self-regulation).

Accordingly, it is expected that integrating these motivational variables could better explain student's motivation. The research hypotheses are presented in next chapter.

**Table 3** Studies of the combining different motivation theories

<b>Author/year</b>	<b>Academic Domain/ task</b>	<b>Participant (N)</b>	<b>Rationale for the choice of theory</b>	<b>Data analytic</b>
Tremblay and Gardner (1995)	Language	N=75 Secondary school students	Self-efficacy Valence Goal salience Causal attribution	Factor analysis Regression
Middleton and Midgley (1997)	Mathematics	N=703 6 <sup>th</sup> grades	Self-efficacy theory Self-regulation theory Achievement goal theory	Factor analysis
Wen (1997)	Chinese	N=77 Asian and Asian-American students	Gardner's social-educational model (instrumentality) Expectancy-value theory efforts	Factor analysis Multiple regression T-test
Pintrich (2000)	Mathematics	N=150 8 <sup>th</sup> -9 <sup>th</sup> grades	Achievement goal theory Motivation dependent Variables (self-efficacy, task value, anxiety)	ANOVA
Pajares, Britnor, Valiante (2000)	Writing Science	N=497 (writing) N=281 (science) Secondary school students	Self-efficacy theory Self-regulation theory Achievement goal theory	Hierarchical regression MANCOCA

Shaaban and Ghaith (2000)	English	N=180 Undergraduate students	Gardner's social-educational model (instrumentality) Expectancy-value theory Effort (adapted Wen's (1997) motivation scale)	MANCOVA
Wigfield and Eccles (2000)	Mathematics Reading Sport	N= 615 Primary school students	Expectancy-value theory Self-regulation	MANOVA
Bong (2001)	Korean English Mathematics Science	N=424 Secondary school students	Achievement goal theory Self-efficacy theory Task-value	CFA
Chularut and DeBacker (2004)	English	N=79 Undergrads and high school students	Self-regulation theory Self-efficacy theory	Correlation analysis
Mori and Gobel (2006)	English	N=453 Second year undergrads students	Gardner's social-educational model (instrumentality) Expectancy-value theory	MANOVA

Hsieh and Schallert (2008)	Foreign language Spanish German French	N=500 Undergrad students	Attribution theory Self-efficacy	Regression
Hulleman, Durik, Schweigert and Harackiewicz (2008)	Psychology class Sport	N=663 High school and college students	Expectancy-value theory Achievement goal theory	Regression
Liem, Lan and Nie (2008)	English	N=1475 Year 9 students	Self-efficacy Theory Achievement goal theory Task value	Correlation analysis
Al-Harthy and Was (2010)	Psychology course	N=65 Undergrad students	Self-efficacy theory Task value Achievement goal theory Self-regulation theory	Path analysis Correlation analysis
Kuo (2010)	Education course	N=221 Undergrad students	Self-efficacy theory Self-regulation theory	Regression
Conley (2012)	Mathematics	N=1870 7 <sup>th</sup> grades	Expectancy-value theory Achievement goal theory	ANOVA

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## **CHAPTER FOUR**

### **RESEARCH HYPOTHESES**

#### **4.1 Overview**

There has been a considerable research in the field of foreign language learning motivation examining its relationship with student behaviour and achievement. Some research has identified several motivation components and focused on how these integrated motivational variables are interconnected (Conley, 2012; Eccles and Wigfield, 2002; Graham and Weiner, 1996; Hulleman et al., 2010; Liem and Nie, 2008; Tremblay and Gardner, 1995; Tremblay, 2001). The aim of the study was to investigate the associations of motivation factors in language learning and the achievement of Taiwanese college students in an ability grouping context through their responses to a motivation questionnaire and their achievement (post-test scores). Thus, based on this, the hypotheses are addressed in this chapter corresponding to the research questions stated previously in section 1.5 (see table 4). The objectives of this research were investigated in three separate phases.

First, the objectives were to respond the research questions:

- a) To examine the inter-relationship between motivational variables in an ability grouping context.

The study's focal point concerns with the relationship between student attitudes towards ability grouping class and related motivational factors nested within expectancy-value theory, instrumental theory, self-efficacy, goal theory, attribution theory and self-regulation theory. These theories are considered to be the main components in this research and will be presented in the research hypotheses found in the following section.

Subsequently, in the second phase, the objectives were:

- b) To find out which motivational variables would predict pupils' academic achievement



in an ability-grouping context using post-test scoring.

- c) To examine the effects of attitude towards ability grouping on the student academic achievement (post-test score).
- d) To uncover the differences among three different ability levels in motivational variables.

In addition, other factors which may cause the differences in student academic achievement are also discussed in the third phase. The objectives were:

- e) To examine whether gender would influence motivational variables in ability groupings.
- f) To examine whether student achievement (post-test scores) changed throughout the academic year according to ability groupings.

## **4.2 Hypotheses**

With respect to previous research studies of the key components in second language (L2) motivation, it was anticipated that these components would be positively related to each other. This study conceptualised the aspects of L2 motivation in terms of the 7 components: *instrumentality* and *attitudes* (Csizer and Dornyei, 2005), *expectancy-value*, *performance goal*, *attribution* (Eccles, 2005; Urdan and Turner, 2005) and *self-efficacy & self-regulation* (Schunk and Zimmerman, 1994). On the basis of the theoretical motivation structure, hypotheses 1 to 4 are presented below.

Hypothesis 1: It was hypothesised that there would be a positive correlation between student attitude towards ability grouping and motivational variables. These motivation variables include student perception of instrumentality, and their perception of expectancy-value.

Hypothesis 2: It was anticipated that there would be a positive correlation between student attitude towards ability grouping and their perception of self-efficacy and self-regulation goals.

Hypothesis 3: With respect to previous research studies conducted on achievement goal theory, it was hypothesised that student attitude towards ability grouping would be significantly related to student perceptions of performance-approach structure and mastery-approach. It was also hypothesised that students would be in favour of performance-approach goals in Taiwan.

Hypothesis 4: It was hypothesised that there would be a positive correlation between student perception of performance-approach and mastery-approach goals. It was also hypothesised that there would be a negative correlation between performance-avoidance and mastery-avoidance. Subsequently, it was anticipated that there would be a correlation between performance-approach and performance avoidance, and a correlation between mastery-approach and mastery-avoidance.

Further, the relation between self-efficacy and student learning motivation has been analysed in previous research studies. These studies have stated the links between self-efficacy and goal theory, and the findings indicate a positive correlation between perceived self-efficacy and skilful performances (Schunk 1983, 1984). Schunk and his colleagues conducted several experiments and further suggested that self-efficacy is enhanced when effective self-regulatory strategies are applied in student learning (Schunk, 1984; Schunk, Hanson and Cox, 1987; Urdan and Turner 2005). The findings with regards to performance-approach goals were more inconsistent compared to performance goals, ranging from positive (Elliot and Church, 1997) to nonsignificant correlations (Midleton and Midgley, 1997) with self-efficacy and mastery goals. Nevertheless, Bong (2001) further indicated results consistent with those found in Western cultures that correlations between performance-approach and self-efficacy measures were also significantly positive in Eastern cultural contexts. Hence, hypotheses 5 to 6 based on self-efficacy are shown as follows.

Hypothesis 5: It was anticipated that there would be a positive correlation between student perceptions of self-efficacy and student perceptions of instrumentality, expectancy-value, performance-approach, and mastery-approach. It was hypothesised that there would be a negative correlation between student self-efficacy and their perception of performance-avoidance, and mastery-avoidance.

Hypothesis 6: It was further anticipated that student perception of self-efficacy would be significantly related to student perception of self-regulation.

As suggest in the previous section, student perceptions of attribution are related to their motivation. In addition, attributions affect student expectations, motivation, and emotions (Weiner, 1979). Schunk (1994) indicated that effective self-regulation depends on students making attributions that enhance self-efficacy and motivation. Furthermore, attribution would enter into self-regulation during the self-judgement stages when students compare and evaluate their performance. Schunk then further assumed that students who attribute success to factors over which they have little control, such as luck or task difficulty, may hold low self-efficacy if they believe they cannot succeed on their own. Put another way, if they believe they don't have the ability to do well, they may judge the learning process 'as deficient and be unmotivated to work harder'. Conversely, it is assumed that students who attribute success to their ability and effort should have higher self-efficacy and remain motivated to work productively. With respect to these research studies, hypotheses 7 to 9 concerning the relationships between attribution theory and other motivational variables were conceivable. The hypotheses are shown as follows.

Hypothesis 7: It was hypothesised that student perceptions of attribution of success would be positively related to their self-efficacy. It was then hypothesised that there would be a negative correlation between student perceptions of attribution of failure and their self-efficacy.

Hypothesis 8: It was hypothesised that student perceptions of attribution of success would be positively related to the motivational variables. These motivational variables include student perceptions of instrumentality and expectancy-value. It was further hypothesised

that student perceptions of attribution of failure would be negatively related to their perception of self-efficacy.

Hypothesis 9: It was anticipated that student perceptions of attribution of failure would be negatively related to student perceptions of self-regulation. It was hypothesised that students with less self-regulation would be more likely to attribute their failure to a lack of effort.

Achievement goal theory is one of the focal motivation structures in this study. The internal relations of achievement goal theory and its influence on student achievement remains an extremely important area of research. Also, several previous research findings have suggested a significant link between learning environments and achievement goal theory (Ames, 1992; Anderman and Maehr, 1994). The results of the previous studies suggest that 'adopting an extrinsic goal orientation led to more maladaptive motivational and cognitive outcomes'. Also, previous research studies have indicated positive relationships between achievement goal theory and student academic achievement (Barron and Harackiewicz, 2001; Elliot and Church, 1997; Elliot et al., 1999; Elliot and McGregor, 1999, 2001). However, it should be noted that there are other studies which failed to find connections between mastery goal orientations and achievement in students (McShaw and Abrami, 2001; Miller et al., 1996; Pintrich, 2000; Skaalvik, 1997).

That is, some divergence existed surrounding the correlations between achievement and performance goal, mainly resulting from uncertainty over the definition of performance goals. This uncertainty arises from some researchers defining performance goals as the desire to demonstrate competence (Grant and Deweck, 2003; Kaplan and Marhr, 2007), while other researchers have defined them as the desire to outperform peers (Elliot 2005, Senko and Harackiewica, 2005). As a result, the findings of these studies have demonstrated different outcomes depending upon which of the two definitions was applied. Consequently, it has been indicated that there is a positive correlation between performance goals and academic achievement when focusing on normative comparisons (Harackiewicz et al., 2002; Kaplan and Midgley, 2002; Senko et al., 2008), but a negative correlation for competence-demonstration goals. Furthermore, other research studies

focusing on competence demonstrations have yielded null or negative correlations with achievement (Utman 1997, Buttin, Mathieu and Zajac, 1996).

In addition, these research studies indicated that mastery goals are often positively related to productive behaviour. Moreover, students who adopt mastery goals did not perform better than those who did not adopt the goals. Recent research has found that mastery-approach can predict student post-test scores, and more research focusing on performance goals has revealed that student exam results can be positively predicted by performance-approach goals and negatively predicted by performance-avoidance goals (Richey et al, 2014). Thus, this study hypothesised that student perceptions of achievement goal theory could be employed to predict student achievement (post-test scores). The following hypotheses 10 to 13 concerning the link between student perceptions of goal structure and their achievements are based on the existing research.

Hypothesis 10: It was anticipated that student achievement could positively predicted by their perceptions of performance-approach goals. It was anticipated that student achievement could be negatively predicted by performance-avoidance goals.

Hypothesis 11: It was then anticipated that student achievement could be positively predicted by their mastery-approach goals, and negatively predicted by mastery-avoidance goals.

Prior research studies suggested that student perceived ability and their motivation are important predictors of their achievement. Ames and Archer's (1988) research study suggested student perceptions of the classroom settings were related to motivational variables that had significant implications for their self-regulated learning. Also, the association between attribution theory and student achievement draws attention to recent studies, which assume that achievement correlates positively with attribution theory (Urdu and Turner, 2005). Dornyei (2001) suggested that attribution theory can be studied in relation to language learning. That is, how individuals perceive their failures has a very strong impact on their future performance. In addition, other research studies have

indicated that attribution feedback affects student attributions and self-efficacy (Schunk 1983, 1984; Schunk and Cox, 1986; Schunk and Rice 1986).

Thus, the following hypothesis, concerning the link between student achievement and their perception of attribution of success and attribution of failure and motivational variables, is built on this theoretical consideration.

Hypothesis 12: It was hypothesised that student perceptions of attribution of success would predict their performance outcome and student perceptions of attribution of failure would also predict their performance outcome.

Moreover, Rosenholtz and Simpson (1984) stated an ability grouping class would result in easier comparison and interpretation in the classroom. This study also aims to focus on the effect of ability grouping on student achievement, self-regulation, attribution and other motivational variables. Further, in this phase, the objectives were to find out the link between student academic achievement (post-test scoring) and other motivational factors. This finding would further examine which motivational variables would best explain student achievement through their levels.

Hypothesis 13: It was hypothesised that student achievement (post-test scoring) could be positively predicted by student motivational elements. In this study, these included student perceptions of instrumentality, student expectancy-value, self-regulation and self-efficacy.

There have been extensive research studies on the effects of student perceived ability and student attitudes toward the classroom setting on student learning outcomes over the years. Ryan and Deci (2000) suggested that individuals' perceptions could be affected by "their need for relatedness" and their perception may also influence their behaviour and learning in this setting. Thus, it is assumed that student perceptions of ability grouping is likely a

significant predictor of their achievement in their ability grouping. The hypotheses are presented below.

Hypothesis 14: It was hypothesised that the student attitudes towards ability grouping would predict their achievement.

Hypothesis 15: It was hypothesised that the student perceived ability (their level) would predict their achievement.

In the last phase of the study, the objectives were then to examine whether there were differences in motivational variables between male or females. Numerous meta-analysis research studies conducted in psychology with gender as an explanatory variable have found evidence of gender differences in the area of language learning. According to the office for National Statistics (1999), girls consistently outperform boys in modern languages in the General Certificate of Secondary Education (GCSE) and A-levels. There are various debates as to the cause of this phenomenon (Clark and Trafford, 1996; Callaghan, 1998; Barton, 1998). Graham and Rees (1995) suggested that differences in characteristics and learning behaviour between male and female students may play an important part in language learning. Thus, on the basis of existing research, the full hypotheses are presented as follows.

Hypothesis 16: It was hypothesised that there would be gender differences in the public university for the 11 motivational variables.

The main component of this research was to find out whether there were differences in motivation through different ability grouping levels. Some meta-analysis research studies have been conducted in the field of ability grouping, and the debate over the issue continues both inside and outside of the classroom. Oakes' (1985) study suggested that students in the higher track were not benefiting from ability grouping and other students suffered from disadvantages, including loss of self-esteem, motivation and ambition. Kulik and Kulik (1991) published different findings on ability grouping, suggesting positive

benefits in some programmes for the ability grouping class. On the basis of the previous research studies, it was expected that there would be significant differences between student levels and their motivation belief.

Hypothesis 17: It was hypothesised that there would be a significant difference among advanced level, higher-intermediate level and intermediate level for motivational variables.

Hypothesis 18: It was anticipated that there would be significant differences across three different levels for student pre-test and their post-test scores.

**Table 4** Relations of research questions and hypotheses

<b>Research Design</b>	<b>Research question (RQ)</b>	<b>Hypotheses</b>
1 <sup>st</sup> Phase	RQ 1: What is the relationship between student perceptions of ability grouping and their levels of motivation?	Hypotheses 1-4
2 <sup>nd</sup> Phase	RQ 2: How do the motivational variables inter-correlate in an ability- grouping setting?	Hypotheses 5-9
	RQ 3: What are the correlations between motivational variables and student academic achievement?	Hypotheses 10-15
3 <sup>rd</sup> Phase	RQ 4: Would other factors (such as gender and level) be significantly different in motivational variables among students?	Hypotheses 16-18



## **CHAPTER FIVE**

### **STUDY METHODOLOGY AND RESEARCH DESIGN**

#### **5.1 Overview of Research Methods**

The study was conducted using a survey approach. In this section, the reasons behind using the survey method in this research as well as the methodological measures are described. The rationale for this approach is explained and evaluated. The implementation of this research falls into two distinct phases: a short pilot study and the refined main study. In the first phase, a short pilot study was undertaken to assess whether the questions on the various questionnaires were understandable to a sample set of participants similar to the intended target population, and whether or not suitable amendments would need to be made. In the second phase, the main study consisted of 681 participants tested across 19 classes at one university. The results from this study are discussed and elaborated in chapters six and seven.

The remainder of this chapter discusses the important topics: (i) how the initial aims of the study were developed and consequently amended; (ii) how the study was devised to answer the research questions and how the data collected from the questionnaires would be analysed; and (iii) how important issues such as trustworthiness and ethics would form important paradigms in this research.

#### **5.2 Assessing motivations in language learning**

##### **5.2.1 Selection of research approach**

Recent research in Social Sciences has determined three main approaches to conducting research: quantitative approaches; qualitative approaches; and a mixed methods approaches that are combinations of quantitative and qualitative approaches, (Cohen et al., 2007; Bryman, 2004). Researchers, depending on the nature of the questions being asked,

will invariably utilise the most appropriate research methodology and justify why this is so. To address the research questions posited in this study in a considered and logical manner, it is necessary to comprehend the fundamental characteristics of these research methods and select the appropriate methods relevant to interpreting the data.

Quantitative research methods are systematic, rigorous, focused, and controlled measurements which can be used to interpret the data reliably and are regularly applied to social research settings. Structured questionnaires and interviews, one-on-one and telephone-based data gathering techniques are some of the common data collection methods employed in quantitative research. Examining previous work investigating the relationship between learner motivation and achievement, exhibits that generally most studies have adopted a survey approach and analysed the data quantitatively (Gardner, 1985; Biddle 1995; Clement and Noels, 1992; Dornyei et al., 2006; Dornyei and Otto, 1998; Bandura and Cervone, 1983; Salili et al., 2001; Humphreys and Spratt, 2008; Tercanlioglu, 2004; Wen, 1997; Shams, 2008; Hsieh, 2004). The advantage of this research method is that it is numerical in nature, so the results are more objective and less likely to be misinterpreted by the subjective interpretations of other researchers. One of the key benefits to adopting a survey approach is ability to gather data from an expanded sample size, and in addition to this, the surveys used in these studies have been statistically well-validated by previous research studies. However, some qualitative purists have argued whether quantitative research is able to explore topics in more detail (Guba and Lincoln, 1989; Lincoln and Guba, 2000; Schwandt, 2000). They argue that research using qualitative methods is more likely to describe events, the feelings of participants and their perceptions, and the results are more reflective and responsive to its participants. Thus, by adopting qualitative methods in the research study, researchers can evoke more meaningful and cultural responses that would lead to a holistic understanding of specific issues in the relevant field (Biddle 1995).

The researcher was aware that qualitative data can support quantitative findings, and furthermore provide a more thorough understanding of the field under study. As the current study involves a large number of students at one university, the sample size of this research

is large, and qualitative research methods are not a viable or suitable choice for this study due to this circumstance. In addition, this research study argues that the generalisability, which has been indicated as a limitation and that may affect the reliability and validity of the research, does not warrant applying qualitative methods (Cohen et al, 2007). Furthermore, the author of this research did not adopt a combination of quantitative and qualitative method, or mixed method approach (Flick, Kardorff, and Steinke, 2004; Johnson, Onwuegbuzie and Turner, 2007). Miles and Huberman suggested to integrate the two approaches by using a qualitative approach to generate the research hypothesis that would then be tested by a quantitative approach to ‘provide a more elaborate understanding of the phenomenon of interest and... to gain greater confidence in the conclusions generated by the evaluation study’ (as cited in Johnson et al., 2007). The concept of integrating the two methods suggested above is that the advantages can ‘enhance our beliefs that the results are valid and not a methodological artifact’ (Bouchard, 1976), and avoid the disadvantages from both research methods. Thus, the researcher was aware that by collecting qualitative and quantitative data in tandem, a mixed method is able to triangulate the data and formulate a better insight into the answers of the research questions (Creswell and Clark, 2011) and can serve to provide responses and solutions to specific issues rather than only discuss trends.

The reason of not adopting a mixed method, such as doing follow up interviews, to conduct the research was because the constructs of the questionnaires employed in this thesis have been validated and the author of this research is interested in testing hypotheses using significance testing. In addition, this thesis aims to investigate the correlations between achievement and the general motivational constructs of English learners in Taiwan, instead of examining any specific motivational issues. As a result, to adopt the combination of both qualitative and quantitative method is not considered in this research. Furthermore, the majority of the research conducted in the area of motivation studies has been by means of quantitative methods (Tremblay and Gardner, 1995; Wen, 1997; Brophy, 1999; Bong 2001; Hsieh and Schallert, 2008; Hulleman et al., 2008; Liem, Lan and Nie, 2008). There are, however, some pieces of research conducted via qualitative methods (Urdan and Mestas, 2006; Saeed and Zyngier, 2012), and very little research on motivation theories has combined both quantitative and qualitative methods in analysing research data

(Wesley, 2012). Given that the focus of this research is to examine the relationships between the motivation of Taiwanese college students and their achievement in an ability grouping context, this study has justified the adoption of quantitative methods as a fair and justified method to undertake the analysis.

### **5.2.2 Description of motivation composing this research**

A number of researchers in the field of motivation study have been inclined to investigate the influence of motivation on student academic achievement. Moreover, previous research on language learning motivation has focused on whether various theoretical motivational constructs have been related to student academic performance. Considerable studies in this field have suggested a connection between the motivation and achievement (Nicholls, 1979; Grant and Deweck, 2003; Elliot and Church, 1997; Elliot, 2005; Senko and Harackiewicz, 2002; Dornyei, 2001a; Pintrich and Schunk, 1996; Zimmerman and Martinex-Pons, 1986). As stated in section 2.2.1, motivation is defined as one of the main factors influencing student learning outcomes, which can be conceptualized as a behavioural response toward goals, a process engaging in goal-directed activity, and a determined regulation toward achievement (Alderman, 2004). Concepts of motivation include attitudes to language learning in an ability grouping context (Gardner, 2004), expectancy-value theory (Eccles, 2005), achievement goal theory (Elliot, 2005), attribution theory (Weiner, 1974), self-efficacy (Pintrich et al., 1991) and self-regulation (Pintrich et al., 1991). These perspectives are able to help researchers and teachers to value what matters for student learning and to understand motivation thoroughly in an achievement setting.

The first type of motivation this research aims to explore is based on Gardner's socio-education model consisting of a questionnaire that examined the reasons why students engage in language learning. Gardner and his colleagues (2004) administered the Attitude/Motivation Test Battery (AMTB) instrument to assess change of motivational variables over a year long language course and to assess correlations between types of motivation and college student language achievement. They found no significant

differences between attitudes toward learning language and instrumental orientation, but these variables were significantly related to student achievement in the language course. In addition to the work by Gardner et al. (2004), Shaaban and Ghaith's (2000) survey research adopted the items from AMTB attitude questionnaire to investigate linguistic attitudes of college students towards language learning. Their study showed correlations between motivation, valence, expectancy, and ability, and the findings showed differences between students at different levels of language ability. That is, students at higher language ability had significantly higher levels of motivation than students at a lower language level. These studies on learner attitudes and their performance show a high inclination to test their hypothesis by using survey research methods, and the results of their findings were consistent with previous motivation research in language learning that there are relationships between language achievement, language attitudes and motivation (Wen, 1997; Dornyei, 1990, 2001a, 2001b; Gardner, 1985). Hence, the two variables (instrumental motivation, and student attitude) were added to the research model in the study.

The second variable considered in this research is achievement goal theory. The results of the research on achievement goal theory showed ambiguous findings (Covington, 2000; Harackiewicz et al., 2002; Wolter, 2004). As stated in the previous section, there was no correlation between mastery goal and student achievement. Elliot (2005) in his study discovered that students who adopted mastery goals did not perform better than those who did not adopt these goals. Other research findings showed a different result in performance goal orientation. It was suggested that student performance depended on how performance goal is defined. For example, some research suggested performance goals as the desire to demonstrate competence (Grant and Deweck, 2003; Kaplan and Marhr, 2007), while other researchers designated it as the desire to outperform others (Elliot, 2005; Senko and Harackiewicz, 2002). A positive correlation between performance goal and academic achievement was established when performance goal was defined as a way to outperform others, and a negative correlation could be found when performance goal was defined as a way to demonstrate competence (Utman, 1997; Button, Mathieu, and Zajac, 1996). Although the research on achievement goals has shown inconsistent results, the research measurement selected in the field of achievement goals consistently applied a survey

research method based mainly on Elliot and Church's trichotomous model (Elliot and Church, 1997, Elliot et al., 1999; Wolters, 2004; Senko, Hulleman and Harackiewicz, 2011), Elliott's  $2 \times 2$  Achievement Goal framework (Elliot and McGregor, 2001; Cherng, Li and Cherng, 2005; Cherng, 2003; Remedios et al., 2008), or Elliot et al.'s  $3 \times 2$  achievement goal model (Elliot, Murayama, and Pekrun, 2011; Wu, 2012) to examine the correlations between achievement goals and academic achievement. For these reasons, the survey questionnaire used in this study is based on Elliot and McGregor's (2001) research on goal orientations to link learner behaviour and performance with their achievement.

The third motivational theory addressed in this research is self-efficacy. As Bandura (1982) stated, self-efficacy is a belief about the ability of oneself to perform actions, and it has been suggested as the principal factor behind successful academic performance (Bandura, 1986; Akama, 2006; Cheng and Chiou, 2010). Consequently, several studies have focused upon the relations of self-efficacy and student achievement. Cheng and Chiou's (2010) examined 124 college students in Taiwan and suggested that self-efficacy is a strong predictor of accomplishment, and self-efficacy has a somewhat symbiotic link with subsequent academic achievement. This was confirmed in the findings of Skaalvik and Skaalvik (2004). In addition to the research findings, the research method selected in the field of self-efficacy examining the correlations between self-efficacy and students is based on the work of Pintrich, Smith, Garcia and McCreachie's (1991) *Motivated Strategies for Learning Questionnaire* (MSLQ). For example, Skaalvik and Skaalvik (2004) used MSLQ to examine high school student performance and suggested self-efficacy as a stronger predictor of subsequent grades. Hsieh and Schallert (2008) applied MSLQ in their study and found that self-efficacy has a correlation with subsequent achievement. Cheng and Chiou (2010), who examined students at one college in Taiwan, also supported the previous research studies that students with higher self-efficacy performed better on the tests. They adopted 5 items from the self-efficacy subscale in MSLQ, and the results were statistically significant with high reliability ( $r=.83$ ).

The fourth motivation discussed in this research is attribution theory. Considerable studies have examined the correlations between attribution and achievement, and have suggested

that the efforts that students make determine the success or failure in their subsequent performance (Weiner, 1992; Hiemstra, 1996; Hsieh, 2004; Hsieh and Schallert, 2008; Hashemi and Zabihi, 2011). In addition to this, Bong (2004) in his study indicated that the attribution students make would also affect their self-efficacy, and this confirmed with previous research studies that there is a close relation between self-efficacy and attribution (McAuley, 1991; Duncan and McAuley, 1993; Galloway et al., 1996). Galloway, Leo, Rogers, and Armstrong (1996) in their study have concluded that students with favourable attribution have higher scores on self-efficacy in mathematics and English learning. Research findings also showed consistent results in Taiwan, with Cheng and Chiou's study (2010) examining the correlations between self-efficacy, achievement goal, attribution and achievement among Taiwanese college students. They found that students who possessed a higher attribution on achievement were more likely to have higher self-efficacy. It should be noted that these studies in Attribution Theory apply to Weiner's model (1992), and further selected the items from the Revised Casual Dimension Scale (CDS) to examine the correlation between attribution and subsequent achievement. The items have been widely examined and verified in previous studies; thus, this study applies CDS to measure the casual attributions college students made about the success or failure of their performance in language learning.

Expectancy-value theory is also considered in this research study as a key component to understand student academic achievement. As stated previously, considerable research studies on expectancy-value in the field of language learning motivation have supported the findings that student perceptions of task value are significantly related to their decision making in terms of mathematics and English learning (Eccles et al., 1983; Hood et al., 2012; Conley, 2012), which have a direct influence to subsequent achievement. Furthermore, several research studies on learner expectancy-value applied the quantitative survey questionnaire drawn from Eccles and Wigfield's work (Eccles and Wigfield, 1995; Eccles et al., 1993) aiming to examine the value students perceived in task and the influence on their achievement. For example, Conley (2012) in her study combining two motivational theories examined the relations among achievement goal, expectancy-value, and high school student achievement in mathematics by using existing, well-established questionnaires developed by Eccles and Wigfield and colleagues. These items were

verified and have psychometric properties (see Eccles et al., 1983; Eccles and Wigfield, 1995; Eccles, Wigfield, et al., 2000). The research findings have shown consistent results in both Eastern and Western cultures (Hau, Kong, and Marsh, 2000; Liem et al., 2008). Hence, the items of task value and competence belief measuring student motivational factors and the outcome were assessed from the work of Eccles and Wigfield (1995), *e.g. I want to speak English fairly fluently.*

Furthermore, previous findings in motivation theory within foreign language learning found that student competence, expectancy and their belief as well as the process to attain the goals are highly related to their subsequent achievement. Thus, one of the main focuses in this study is to find out how student self-regulation affects their motivational behaviour and its relation to their performance. Research discussions have found a significant correlation between self-regulation and success in language learning (Wenden, 1991; Winne, 1995). Considerable research in the field of self-regulation has drawn the survey items initiated from Pintrich et al.'s (1991) Motivated Strategies for Learning Questionnaire (MSLQ) in order to measure student self-regulatory motivation. Accordingly, the items from MSLQ were added in this research study.

Nevertheless, little research has been conducted by integrating different theoretical models to investigate the influence on student achievement (Hsieh, 2004; Conley, 2012; Hulleman, Durik, Schweigert and Harackiewicz, 2008; Liem, Lau and Nie, 2008). Hulleman, Durik, Schweigert and Harackiewicz's study (2008) integrating expectancy-value, achievement goals and interest attempted to examine achievement goals and student academic performance. The measure they used to assess learner interest in motivation adapted the questionnaire from their previous research (Harackiewicz, Barron, Tauer, and Elliot, 2002). Their findings suggested a close connection between the perceptions of task value and academic performance, and the correlation between academic achievement and performance-approach goals (Harackiewicz, Barron, Pintrich, Elliot and Thrash, 2002). In addition to their study, they verified earlier works that integrated multiple motivational perspectives in a study that 'complements the previously established motion that there can be multiple pathways to optimal motivation' (Hulleman et al., 2008). Other than Haulman



et al.'s study, Liem et al. (2008) in their study examining English the performance of Asian college students subsequently adopted a combination of expectancy-value and achievement goal theories. They suggested a relation between student self-efficacy, task values and achievement goals, and further indicated a need to examine how these motivation variables related to student achievement outcomes. Thus, in the line with previous studies and the intention of concentrating on '*language level*' and '*learner level*' (Dornyei, 2009), this research was designed to analyse different motivation variables focusing on students in order to predict student language learning achievement in an ability grouping context. The following section explains the measurements that this study adopted.

### **5.3 The Scale of Measurement**

#### **5.3.1 Dependent variables**

Dependent variables refer to the factors which could be passively affected by other factors (independent variables), while independent variables refer to the factors being manipulated by the research. This quantitative research uses a survey research method to investigate the correlation between college student motivation regarding foreign language learning with student academic performance (post-test score), and student language level. That is, the dependent variables in this research refer to the motivational variables as instrumental motivation, expectancy-value, achievement goal, attribution, self-efficacy, and self-regulation, while the independent variables refer to student class levels. Therefore, this thesis employed a motivation questionnaire which was adapted from Gardner's (1985) instrumentality goal, Eccle and Wigfield's (1995) expectancy-value, Elliot and McGregor's (2001) achievement goal, Pintrich's (2001) self-efficacy and self-regulation theory, and Hsieh's (2004) attribution study.

#### **5.3.2 Measurement**

To investigate the relationship between student academic achievement and the motivational variables, the survey in this thesis was designed by selecting relevant questionnaire items from those studies mentioned in previous sections. The survey consists

of 45 items comprising of six scales, with a brief introduction of all variables in table 5 and the full questionnaire appearing in Appendix A. In addition to the standard questions, the participants were first asked to give personal information about their age (an open question), gender, their major subject, level of English class (advanced class, higher intermediate class, and intermediate class), and their English scores on their college entrance examination (Appendix A). The questions about their class level were included in order to investigate whether the level of their class would influence their academic achievement and their motivation. In total, students were asked 49 questions, and it should be noted that these variables form the essential part of this thesis as they were specifically designated to gather the necessary data to answer the study's research questions. The other measurements in this research and their statistical analysis will be discussed in this section.

**Table 5.1** A brief introduction of measurements within this research

Name of Scales	Measurement	Number of items	Original Scales or literature
Scales selected from social-cognitive theory	Student perception of instrumentality	4	AMTB (Gardner, 1985)
	Student attitudes toward ability grouping class	5	
Scales selected from expectancy-value theory	Student perception of expectancy-value	5	Eccles and Wigfield (1995); Wen (1997)
Scales selected from achievement goal theory	student mastery-approach goal structure	3	Elliot and McGregor (2001)
	student mastery-avoidance goal structure	3	
	student performance-approach goal structure	3	
	student performance-avoidance goal structure	3	
Scales selected from attribution theory	Student attributions of failure	4	CDS (Weiner, 1992); Hsieh (2004)
		4	
	Student attribution of success		
Scales selected from self-efficacy theory	Student perception of self-efficacy	5	MSLQ (Pintrich et al., 1991)
Scales selected from self-regulation theory	Student perception of self-regulation	6	MSLQ (Pintrich et al., 1991)

### *Instrumentality theory of motivation and the perception of ability grouping*

Nine questions were asked in this inventory, with four questions asking about student instrumental motivation towards language learning and five questions related to their attitudes towards ability grouping. Four items from the existing inventory in the Attitude/Motivation Test Battery (AMTB) (Gardner et al., 2004) were included. In addition, four items of the motivation questions were adapted from the existing AMTB, which was first generated by Gardner (1985). The reason for selecting Gardner's (1985) AMTB was because of the reliability and validity of this study, as it has been used in a large number of quantitative research projects investigating the attitudes, integrative orientation, and instrumental orientation in second/foreign language learning classrooms (Gardner and Lambert, 1972; Kristmanson, 2000; Williams, Burden and Lanvers, 2002; Shams, 2008; Hsieh, 2004). The questions in this section aim to investigate whether the instrumentality goal would influence student achievement. Furthermore, this survey questionnaire adapted 2 sections of AMTB due to its relevance to the research foci, which included questions about attitudes towards learning, and instrumental orientation. The items about student's perception of ability grouping were included to examine student perspectives in different ability grouping classes, e.g. *I have more interest to learn English in an ability grouping class*; or *I have more confidence to talk to classmates from the same level in an ability grouping class*. Therefore, the questions in this section regarding 'attitudes towards learning' query the students about how they like the ability grouping class and how confident they are in the classroom; while the 'instrumental orientation' questions ask the reasons why they wish to learn English. The items in this inventory were amended to a 5-point Likert scale asking if they (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, or (5) strongly agree.

### *Expectancy-value motivation in language learning*

Five questions were asked in this inventory. The items were asked here to examine the value that students perceive when participating in tasks and how these values influence their academic achievement. Student motivations, as determined by their expectancy-belief and task value, were measured based on expectancy-value theories which were initiated by Eccles and Wigfield (1995) and Wen (1997). The items examined student expectancy

surrounding language learning, e.g. *I want to speak English fairly fluently*. The questionnaires from Eccles and Wigfield (1995) and Mitchell (1974) on expectancy-value motivation have largely been adopted in previous research (Wen, 1997; Wigfield and Eccles, 2000) and have shown high reliability in the relevant field of study. In addition to this, Wen (1997), in his follow-up research, developed a questionnaire based on Mitchell (1974), which investigated the motivational factors of Asian students related to the outcomes they desire to achieve through learning a foreign language. It included language proficiency, external reward, and knowledge of different cultures.

The ‘language proficiency’ items ask about the student expectancy of what they want to achieve from their English skills and how well they wish to communicate with native speakers. The ‘external reward’ item indicates a general concern about asking about student expectancy of the good outcomes they want to receive in the classroom. The ‘knowledge of different cultures’ items asks about student desires for cultural enrichment. Therefore, this survey questionnaire adapted these three scales which were verified in Eccles and Wigfield’s study (1995) and have shown high reliability when used to measure student expectancy in learning. The students were asked to respond to the items by choosing their preference on a 5-point Likert scale, from (1) strongly disagree to (5) strongly agree.

#### *Achievement goal theory in language learning*

In order to assess student beliefs and desires to achieve their goals, the questions of achievement goal theory were adapted from Elliot and McGregor’s (2001) 2x2 achievement goal framework, which has been verified and has construct validity and reliability. The items from this framework were selected from Elliot and McGregor’s previous work of the trichotomous framework (Elliot, 1997; Elliot and Church, 1997). The 2x2 achievement goal framework consists of twelve items in four scales: performance-approach goal, performance-avoidance goal, mastery-approach goal, and mastery-avoidance goal.

The four scales of achievement goal theory that this research took includes three items from the performance-approach goal, e.g. *My goal is to perform better than the other students*, three items from the performance-avoidance goal, e.g. *My goal is to avoid doing worse than other students*, three items from the mastery-approach goal, e.g. *My aim is to completely master the material presented in this class*. In addition to this, three items from the mastery-avoidance goal were included, e.g. *My goal is to avoid performing worse than others*.

Much research conducted in this field has demonstrated the good reliability and validity of this instrument (Elliott and McGregor, 2001) and has correspondingly been utilised for Asian students by using Elliot and McGregor's 2×2 achievement goal framework (Shih, 2005, 2007; Lau and Lee, 2008). The alpha coefficients of Elliot and McGregor's (2001) study for measures on four sub-scales in achievement goal theory were as follows: performance-approach items,  $r=.94$ ; performance-avoidance items,  $r=.83$ ; mastery approach items,  $r=.89$ ; mastery-avoidance items,  $r=.88$ . Due to the complex nature of the variables undertaken within a Taiwanese context, this research is best conducted using Elliot and McGregor's 2×2 model to examine student motivation to learn English. The students in this section were asked to respond to the items with responses ranging from (1) strongly disagree to (5) strongly agree.

#### *Attribution theory in language learning*

To understand the student perceptions of the attribution of their success and failure in language learning, eight questions were asked in this inventory that referred to the causal dimensional scale (CDS) which derives from Weiner's (1992) model indicating the personal attributes 'ability' and 'effort' and situational attributes 'task difficulty', and 'luck'. Previous research utilizing CDS reported high reliability in language learning context (McAuley et al., 1992; Hsieh, 2004; Hsieh and Scallet, 2008). In this part, the students were asked to rate their perception on a 5-point scale, and the questions here asked the students whether they thought that the test was a fair reflection of their ability, effort, task difficulty or task, e.g. *I got a good mark on the test due to trying really hard*, or *I got bad mark on the test because I am not trying really hard*. The items in this section asked

for student perceptions on a 5-point Likert scale, from (1) strongly disagree to (5) strongly agree.

#### *Self-efficacy and self-regulation questionnaire*

In this section, five questions regarding student confidence about achieving better outcomes in their language learning were asked, and a further six questions regarding student self-regulated learning strategies were included. These were developed by Pintrich, Smith, Garcia and McReachie's (1991) *Motivated Strategies for Learning Questionnaire* (MSLQ). The original version of their self-efficacy questions consists of 81 self-report items. MSLQ was used in many research studies (Pintrich et al., 1991; Jacobson and Harris, 2008) and was validated in different countries (Karadeniz et al., 2008). It aimed to investigate student motivational orientation and learning strategies in language learning, and consists of fifteen sub-scales in two main areas: (1) the motivation section; and (2) the learning strategies section.

The motivation section covers three components: value, expectancy and affect, respectively. The first component of value can be divided into: (1) 4 items of intrinsic goal orientation, (2) 4 items of extrinsic goal orientation, and (3) 6 items of task value. The second component of expectancy can be divided into: (1) 4 items of control belief, and (2) 8 items of self-efficacy for learning and performance. The last component of affect refers to test anxiety which contains 5 items.

In order to investigate student ability to reach their goals and their confidence about completing the task, this research took 5 of the 8 items from the self-efficacy for learning and performance in the motivation section (*e.g. I'm confident I can do an excellent job on the assignments and test for this course*). Further, the alpha coefficients for the five constructs i.e. extrinsic, task value, expectancy, self-efficacy and test anxiety, in the motivation section of MSLQ in Pintrich et al.'s (1991) research has been verified using Cronbach's alpha and have reliabilities ranging from .62 to .93. In particular, the alpha coefficient of the self-efficacy construct has considerably high reliability  $r=.93$ .

In addition to the items of self-efficacy, five questions regarding the self-regulation questionnaire (SRQ) were also taken from the learning strategies section of MSLQ. In this section, 50 items from the original MSLQ were organized into two areas: (1) cognitive and metacognitive strategies; and (2) resource management.

These consist of themes of environmental management, effort regulation, peer learning and help seeking. This study concentrated upon five questions that target self-regulation. An example of the five items for assessing self-regulation was: *Even when the study materials are dull and uninteresting, I keep working until I finish.* The reliability of the self-regulation section of learning strategies scales in Pintrich et al.'s (1991) MSLQ research has been verified using Cronbach's alpha and have reliabilities ranging from .52 to .80. Students in this section were instructed to respond about their behaviour regarding self-regulation in their learning using a 5-point Likert scale (1= strongly disagree to 5 = strongly agree).

#### *Measure of achievement*

In this study, the student achievement was defined as the progress between their pre-test and post-test in the two English classes: English Listening and Speaking, and English reading comprehension. The pre- and post-test were both measured using a valid, standardised multiple-choice test to examine the student English level, focusing on student listening and reading skills. Listening tests in pre- and post-test assess student listening skills, involving basic language knowledge, and ability to communicate for situation and context. Reading tests in pre-and post-test, on the other hand, assess student reading skills, including the basis knowledge of vocabulary and grammar which is required for general communicative tasks, and the ability to comprehend the reading texts. Thus, the range of language ability to be tested in this study is narrow as it tested only student receptive skills (listening and reading) but not their productive skills (speaking and writing). The pre-test was held in the first week of the semester in the classroom, while the post-test was held a week before their last week (week 17) of the semester in the classroom. The contents of the examinations for all classes were similar and included English listening and reading

comprehension. The students were scheduled to take the exam at the same time. The pre- and post-test examination scores were then transformed into percentage scores.

#### **5.4 Procedure of the data collection**

As a part-time teacher in different universities, the author of this thesis was able to teach and hear about different student motivation with regard to language learning, which also helped the author to get permission from the school authorities, teachers and students more easily. Before conducting the survey, the author approached each teacher whose classes participated in this study to explain the research purposes and questions. Prior to administering the questionnaire, a pilot study was undertaken. Students were surveyed in their regular English class during the autumnal term of 2010. There was only one problem with this survey: the participants were scheduled to have their English class during the same period. For this reason, the author was unable to visit each classroom and collect their survey personally and, as a result, explain the research purposes and questions to the teachers who previously helped to solve this problem. The questionnaires were brought to the individual teachers the day before in person, and then those teachers collected them on the day the participants completed them.

The participants were informed about the purpose of this research study and were asked for permission to conduct this survey in the class a week before conducting the questionnaire in both the pilot and main studies. The participants received a consent form and were encouraged to ask any specific questions they might have about the purposes of the study. They were reassured that the responses would be held in the strictest confidence and that any comments made by the students would not adversely affect their grades. Added together with the questionnaire, it listed the main purpose of this study and an agreement about confidentiality. They were informed that their responses would remain confidential and that no one could access them without their direct permission. The pilot study collected the data from several universities in Taiwan that adopted ability grouping in first year undergraduate English classes, and further focused on three different types of



university: public university, private university and private university of technology. Among the 195 participants in the pilot study, 45 were in the intermediate level in a public university the author taught at. The author explained the research situation, which followed that already described (see table 5.2). However, for the remaining 150 students at different levels and different universities, this information was explained in detail to each teacher who kindly assisted in data gathering, and who, in turn, would explain the research aims to the students. Having informed the participating teachers about expected questions, they were told that any specific questions that a participating teacher could not answer could be referred to the author so that students would be able to contact the author directly. The participating teachers helped to disseminate and collect the completed questionnaires for those students. Furthermore, the pilot study is discussed in greater detail in chapter 6.

**Table 5.2** Demographics of Participants in the two studies

		Proficiency level of class			Total
		Advanced	Higher intermediate	Intermediate	
Pilot Study	Public university	0	26	78	104
	Private university	0	0	56	56
	Private university of technology	0	0	35	35
Main Study	Public university	167	248	266	681

As for the pre-test and post-test scores in the main study, the pre-test was held in the first week of the fall 2010 semester while the post-test was held a week before the last week (the 17<sup>th</sup> week) of the spring 2011 semester at the public university (see Table 5.3 for timeline). The school authorities and teachers were first asked for their permission to collect and analyse the test scores and the school authorities further helped to collate all the scores from each class at the public university at the end of the spring 2011 semester. In the main study, with 681 participants from the public university, there were 167 students at the advanced level, 248 at the higher intermediate level, and 266 at the intermediate level. Whilst handing out the questionnaire, the author also obtained the permission from the participants to use their scores in this study, and furthermore explained to them that assessing and comparing their scores at the end of the semester would help to clarify the

scope of the research. Moreover, the researcher also informed the participants that the results of the pre- and post-tests would have no bearing whatsoever on their final class grades.

**Table 5.3** Timeline of procedure

<b>Fall semester, 2010</b>		<b>Spring semester, 2011</b>	
Sep, 2010	Nov, 2010	April, 2011	June, 2011
Pre-test	Pilot Study: Questionnaire	Main Study: Questionnaire	Post-Test

The questionnaire in both studies (pilot and main study) was created in both a Chinese and an English version, and they were exactly the same in scope. The author provided the participants with the questionnaire in Chinese so that they would need to spend less time completing it and there would be no misunderstanding or misinterpreting the Chinese-English version. The participants were invited to complete the questionnaire at the end of the course and return it to their teacher; this would not influence any of the classes. The questionnaire was conducted in the middle of the semester, in the 10<sup>th</sup> week, a week after the mid-term examination, as the teachers were less busy then and would have more time to fill out the questionnaire after the students received their mid-term exam scores. More significantly, the students were able to answer the questions regarding whether they perceived their mid-term scores as a success or failure and the attribution of their success/failure in subsequent achievement. It is noted that the measurement of participants' success and failure was not based on their test scores but on their perceptions of their own achievement, and they were also asked to rate their experience of and attitudes towards their English learning motivation. The process was repeated in each classroom, both in the pilot study and the main study. After collating all of the questionnaires, their responses were first entered into a Microsoft Excel database and then converted into an SPSS file, before being analysed using the tools associated with the SPSS programme.

## 5.5 Analysis Plan

In order to respond to the research questions addressed in this study, a number of statistical analyses were conducted. All data was analysed using the Statistical Package for the Social Sciences (SPSS) version 22. In the primary phase, in order to check the reliability of the main constructs used in the research, the reliability analysis in terms of the Cronbach's alpha co-efficient value and the inter-item correlation were run in the pilot study to check if any scales fell outside the generally accepted criteria. Further, in the second phase, descriptive statistics of the main study were applied to calculate the means, standard deviations and sum scale scores of each motivational variable by means of IBM SPSS 22. In the third phase, a series of correlation analyses were conducted using Pearson's *R* to identify the relationships between motivational variables and student attitudes towards ability grouping. This analysis was followed by a linear regression analysis examining the relationship between the dependent variables in terms of student motivational variables and their academic achievement (post-test results). In the last phase, the pair-sample t-test and ANOVA were conducted to explore the differences in this study. The t-test was used to examine whether there were differences between genders and student achievement in an ability grouping context. Subsequently, an ANOVA test was employed to explain whether there was a difference in motivational variables among students in different ability levels (advanced, higher intermediate and intermediate level).

**Table 5.4** Summary of research design

	<b>Research Design</b>	<b>Research Analysis Plan</b>
Pilot Study	Questionnaire survey: to check the reliability and practicality of the items and revise questionnaire if necessary	Reliability coefficient
Main Study	Questionnaire survey: To test the hypotheses	Descriptive statistics Correlation analyses Linear regression analysis T-test ANOVA

## 5.6 Trustworthiness and ethical concerns

Several research studies on the motivation for language learning identified a number of methods as the prominent characteristics of quantitative research (Dornyei, 2001). The concepts of reliable, replicable and generalisable have been identified as the key paradigms to be used to describe the various aspects of trustworthiness in quantitative research.

A basic ethical principle governing data collection is that no harm should come to the respondents as a result of their participation in the research (Oppenheim, 2000). The principles which underpin the ethical code for this study followed the American Psychological Association's (APA) guideline. According to the general standard of these ethical rules, this research included full disclosure of the purpose of the study and restricted access to any data collected both during and after the study. All data collected was documented and kept confidential at all times in a secure place, and all these actions aimed to mitigate the reasonable risk of harm to the participants.

To provide more credible data to analyse, the researcher first gained the ethical approval by the school of Education Ethics Committee. Further, this study would undertake the first pilot survey in the first semester and then collect feedback from the questionnaire. The questionnaire was translated and conducted in Chinese in order to obtain accurate perceptions and feedback from the individuals concerned. First of all, the researcher translated the questionnaire and then invited two bilingual translators to translate the same questionnaire again to check the translated version of question contain items that are interpreted the same way as the original questions, and further reviewed the questions to elaborate on those sentences which they think would be difficult for Taiwanese student to understand, and the details of the process were explained in Section 6.1. Participating students were informed that their academic achievement would not be affected by participating in the study; further to this, the questionnaires were deliberately conducted at the end of the semester in order to build trust between the participants.

## **5.7 Summary**

This chapter has presented an overview of the methodology employed in the research study, which utilised the selected motivational variables to examine student attitudes towards language learning at a public university in Taiwan. Survey research and quantitative analysis research methods were applied to determine Taiwanese college student perceptions of their language learning motivation as well as their attitudes towards ability grouping classes in both the pilot study and the main study. Furthermore, the main study attempted to gain insights into the different levels at one university rather than at different types of university because of the difficulty in comparing the results across different types of universities.

## **CHAPTER SIX**

### **PILOT STUDY**

#### **6.1 Introduction**

Pilot testing is a small-scale study conducted primarily prior to conducting the main study in order to check its feasibility in an attempt to minimise and avoid any deficiencies in the research design, and it is frequently carried out before a quantitative research for this very reason. When piloting a questionnaire in the study, it aims to achieve feedback, both positive and negative, in order to check if there is any significant areas this research has failed to illustrate clearly (Cohen et al, 2007) and furthermore to check the reliability and validity of selected scales. As Oppenheim (2000:48) remarked ‘the questionnaire should be piloted; nothing should be excluded’. Another reason for the requirement of piloting questionnaire was to ensure the translation of motivation questionnaire matched the intended aims is understandable to all participants, and also to find out whether a main study was feasible.

In order to examine the reliability, face validity and practicality of the questionnaire design for the main study, the researcher decided to pilot a preliminary questionnaire to assess whether or not the questions were comprehended by the target audience and whether the information gathered would provide suitable data. The questionnaire was first created in English and then translated into Chinese. Two bilingual academics (one Taiwanese English teachers, and one native speaker) were asked to check the translated version separately for two important reasons; firstly to check the literal accuracy of the translated version, and secondly to provide any commentary on the survey. Both teachers suggested adding one question to the first section regarding to the English scores in their college entrance examination, in order to make this piece of research more robust in terms of understanding student level of English, and the results would then be able to be compared with the final class achievement from their specific ability grouping.

The questionnaires were adapted from Gardner (1985), Wen (1997), Elliot and McGregor (2001), Pintrich et al (1991) and Weiner (1974) as mentioned previously in section 5.3. In addition, the questionnaire conducted in the pilot study was initially composed of 45 questions mixed together, without categorising the scales asking what type of perceptions of ability grouping class existed (See Appendix A). Both teachers suggested placing the questions regarding student perception of ability grouping and self-regulation into two single sections in this survey that would facilitate optimal completion by students. The question regarding student English score on the college entrance examination was also added, and the different sections of the questionnaire were separated, after which the revised version (in both English and Chinese) was sent to the two English academics for further comment.

## **6.2 Participants**

The original population of this proposed study was an attempt to create a snapshot of students at different levels of English ability from different types of universities, i.e. public university, private university and private university of technology. Participants would be grouped into a level based on their scores of the proficiency test (pre-test) which they had before the class started. In addition, students will be put into three different levels: advanced level (A), higher-intermediate level (HI) and intermediate level (H). With regard to the ethical issues, all participants were initially informed of the study and they were assured that all data collected was held in confidence and reported anonymously and they could withdraw if they wanted at any time.

Participants were 195 first year students from three different universities. Among 195 participants, 104 of them are male and 90 of them are female, and there was one missing, erroneous data. In addition, 26 from higher intermediate class and 78 from intermediate class at public university, 56 from intermediate at private university and 35 from intermediate at private university of technology (see Table 5.2).

### **6.3 Process of the pilot study**

Prior to conducting the research, the researcher sent correspondence to the school where she is employed requesting permission from the school (and relevant authorities) and asked if any colleagues were willing to engage in this pilot study. There were four teachers responded positively to this request. The aims of the research were explained to those teachers that agreed to participate and the questionnaire was then offered to them.

The pilot study was conducted in the middle of the first semester in November, 2010, one weeks (week 10) after the mid-term examination in three universities in Taiwan. All participants in this pilot study were asked to complete a questionnaire (see Appendix A) with five items asking their personal background, including their age, gender, major and their ability level and 45 items asking their rate of belief and desire in motivation variables during a ten minute break in a two hour English class. Furthermore, all participants were asked to complete the questionnaire in the same week in their class by the same researcher (the author of this thesis) or their class teachers. The researcher introduced herself to the students and explained that the questionnaire is the pilot study of her intended research.

### **6.4 Measurement in the pilot study**

The questionnaire (Appendix A) comprises ten multi-item scales, a total of 45 items. The initial questionnaire in this pilot study was to assess the understanding of the questions by students (see table 6.2) in terms of their instrumentality motivation (four items), expectancy-value (five items), self-efficacy (five items), achievement goal (twelve items), self-regulation (six items) and the attribution to the success or failure of English learning (eight items), and their perception of ability grouping class (five items). The items in the questionnaire were amended to a five point Likert scale from 1 (strongly disagree) to 5 (strongly agree).



**Table 6.1** Items in student questionnaire in the main study

<b>Scales</b>	<b>Number of items</b>	<b>Total items</b>
Instrumentality	2, 9, 12, 16	4
Expectancy-value	4, 7, 18, 30, 25	5
Self-efficacy	1, 6, 14, 22, 34	5
Student performance-approach goal	3, 26, 29	3
Student performance-avoidance goal	8, 11, 33	3
Student mastery-approach goal	5, 9, 18	3
Student mastery-avoidance goal	10, 20, 31	3
Attribution of success	21, 17, 13, 15	4
Attribution of failure	33, 23, 24, 27	4
Perception of ability grouping	35, 36, 37, 38, 39	5
Self-regulation	40, 41, 42, 43, 44, 45	6

### 6.5 Reliability Analysis of each measurement

The main purpose of the pilot study was to examine the reliability of the motivational constructs and the practicality of the study. This, in turn would allow the assessment of the items from each scale to ensure their consistency and to be able to carry forward to the main study. A reliability test was conducted using Reliability Analysis before the main study was conducted. The result of the reliability in each scale is shown in Table 6.2. The closer the Cronbach's alpha coefficient is to 1.0, the higher the internal consistency of the items, but there is no limit to the lower co-efficient. George and Mallery (2003) suggested  $\alpha < 0.6$  is poor and unacceptable (p. 231). So, any scale that failed to load adequately under 0.6 criteria will be discussed. Co-efficient Alphas were acceptable for 9 scales (out of 11): 0.686 for expectancy value, 0.813 for self-efficacy, 0.715 for performance-approach, 0.723 for mastery-approach, 0.664 for mastery-avoidance approach, 0.674 for mastery-avoidance, 0.88 for perception of ability grouping and 0.789 for self-regulation.

**Table 6.2** Student Motivation Questionnaire: Reliability Analysis

Scales	Alpha	Total items
Instrumentality	0.714	4
Expectancy-value	0.686	5
Self-efficacy	0.888	5
Student performance-approach goal	0.715	3
Student performance-avoidance goal	0.664	3
Student mastery-approach goal	0.723	3
Student mastery-avoidance goal	0.674	3
Attribution of success	0.400	4
Attribution of failure	0.563	4
Perception of ability grouping	0.888	5
Self-regulation	0.789	6

There were two scales which fell below the 0.6 criterion, so the inter-item correlation was run to check if any item was the source of the problem. The correlations are shown in Table 6.3. It was shown in the inter-item correlations for the attribution of success that Item 3 (question 15, Appendix A) has the lowest correlations with other items. Cronbach's alpha was conducted again excluding Item 3, and the reliability of attribution of success improved from 0.400 to 0.579. So Item 3 was then excluded from the analysis. The three-item construct was taken through to the next stage of the analysis; however, the co-efficient alphas in this scale did not reach to 0.7 and the remaining items were still not highly reliable. Thus, the conclusion derived from these scales will be considered the low reliability.

**Table 6.3** Inter-item correlations for the attribution of success scale ( $p < .05$ )

	Item 1 (Q 17)	Item 2 (Q 21)	Item 3 (Q 15)	Item 4 (Q 13)
Item 1 (Q 17)	--	.373**	-.021	.155**
Item 2 (Q 21)	.373**	--	-.078*	.403**
Item 3 (Q 15)	-.021	-.078*	--	.045
Item 4 (Q 13)	.155**	.403**	.045	--

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

Item 1. Attribution of success: I get good mark on the test due to my trying really hard

Item 2. Attribution of success: I get good mark on the test due to the fact that I'm smart in this subject.

Item 3. Attribution of success: I get good mark on the test due to good luck on my part

Item 4. Attribution of success: I get good mark on the test due to the fact that test was easy.

Next, the attribution of failure also fell below this level, so the inter-item correlation was run to check if any item was the source of the problem. The correlations are shown in Table 6.4. The table shows that Item 1 (question 23, Appendix A) has the lowest correlations with other items. Cronbach's Alpha was conducted again excluding Item 1, and the reliability of attribution of success improved from .563 to .638. Therefore Item 1 was excluded from the analysis, and the remaining items were taken through the next stage of the analysis.

**Table 6.4** Inter-item correlations for the attribution of failure scale ( $p < .05$ )

	Item 1 (Q 23)	Item 2 (Q 24)	Item 3 (Q 27)	Item 4 (Q 32)
Item 1 (Q 23)	--	.221**	.022	.154**
Item 2 (Q 24)	.221**	--	.353**	.456**
Item 3 (Q 27)	.022	.353**	--	.307**
Item 4 (Q 32)	.154**	.456**	.307**	--

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

Item 1. Attribution of failure: I get poor mark on the test because I am not trying really hard.

Item 2. Attribution of failure: I get poor mark on the test due to the fact that test was too difficult.

Item 3. Attribution of failure: I get poor mark on the test due to the fact that I had bad luck on this test.

Item 4. Attribution of failure: I get poor mark on the test because I am not smart enough in this subject.

As the results, the 11 scales comprised a total of 43 items which were retained in the questionnaire of the main study and used in the following analysis.

## 6.6 Discussion

It should be noted that the initial research plan was to investigate the correlation between motivational variables and the perception of students towards ability grouping class at different levels within different university structures, i.e. public university, private university, and private university of technology. Furthermore, one of the main focuses in this thesis is to examine whether ability grouping is helpful for student motivation as well as achievement in an EFL classroom. The study examined the perception of students to four motivation variables: instrumentality, expectancy-value motivation, achievement goal

theory and attribution theory, as well as two self-reports in assessing language learning motivation, such as self-efficacy and self-regulation. However, a notable point to make is that student academic achievement was not examined in the pilot study for the reason that the post test was scheduled at the end of the spring semester (June, 2011) and the pilot study needed to be finished in the autumn semester (November, 2010). Due to the time limitation, the measurement of student achievement was not included in the pilot study.

In addition, the questionnaire for students was conducted only by those at intermediate level at the private university and the private university of technology and not at all three levels in the main study. There were no sample students at higher intermediate level, and students at private university and private university of technology were divided into two levels: higher intermediate level (HI); and intermediate level (I), and this was based on their scores at the college entrance examination rather than from a pre-test at the beginning of the semester. That is to say, the pre-test was held in neither a private university nor a private university of technology. Given the reason that there was no sufficient data from advanced level at a private university as well as at a private university of technology and no data from higher intermediate level, the initial plan of analysing different ability grouping levels among different university types was eliminated in the main study of this thesis. This finding helped this thesis reconsider the research field of whether or not to compare the different motivational variables at different universities in Taiwan. As a result, the main focus for the present research is to gain insights into the different levels at one public university rather than at different types of university.

The findings in private university and private university of technology indicated a problematic system of ability grouping in English classes delivering college English education in Taiwan. This has caused difficulty in analysing the data and comparing the results with different universities. Therefore those universities not applying a consistent pre and post-test grouping for English languages lessons would not be considered in this thesis, and for this reason, the private university and the private university of technology were not included in the main study.

As a final point, as the items eliminated from the research that give marginal reliability in the scale, the final agreed version of the questionnaire in both Chinese and English deleted the two items from the scale of attribution of success and the scale of attribution of failure. Consequently, forty-three questions about learning motivation were carried to the main study and this comprised the final version of research questionnaire.

## **CHAPTER SEVEN**

### **DATA ANALYSIS AND RESULTS**

#### **7.1 Overview**

The purpose of the present study was to examine the motivation of students towards ability grouping classes in a foreign language learning and how it is related to student academic achievement. It was hypothesised that the relations of the motivational variables and ability grouping were positively inter-related and it was further hypothesised that these motivations can predict student academic achievement. The study was designed to test the hypotheses in order to see whether ability grouping would make differences in student motivation to learn. The results of data analysis were presented in the following sections.

#### **7.2 Participants in the main study**

The participants in the main study were first year Taiwanese students from 19 classes in one public university. In this public university, students were required to take a four hours of English classes per week, including two hours listening class and two hours reading class. All students were assigned to the class based on their ability. Students were asked to take the first proficiency test (pre-test) in the first week of the first semester, and participants were subsequently assigned to a different level of class according to their the test results, including advanced level, higher-intermediate level and intermediate level. Students with the same range of test scores would then be in the same ability group for the following academic year. The results obtained from the motivation questionnaire administered to a total of 19 classes with 681 participants (40.7% Male, 59.3% Female) from the same public university, including 4 advanced-level classes, 6 higher-intermediate classes and 9 intermediate classes. Furthermore, the motivation questionnaire and the student achievement results from student pre-test and post-test scores in the 2010/2011 academic year were then compared and presented to answer the research hypotheses stated

in chapter four. The description of the details of participants in the public university is shown in Table 7.1.

**Table 7.1** The sample according to gender and level in the main study

		Male	Female	Frequency
<b>Proficiency level</b>	Advanced level	47	120	167 (24.5)
	Higher intermediate	102	146	248 (36.4)
	Intermediate	128	138	266 (39.1)
<b>Frequency</b>		277 (40.7)	404 (59.3)	681 (100)

There were four advanced-level classes, six higher-intermediate classes and nine intermediate classes, in the main study. The advanced level class included X6, X8, X14 and X19 and the average score for the pre-test was 75.48. The higher intermediate level classes were X4, X5, X10, X12, X15 and X18, and the average pre-test score was 64.21. The intermediate level class included X1, X2, X3, X7, X9, X11, X13, X16 and X17, and the average pre-test score was 47.95. Classes 1 to 14 were the students from eight departments: Chinese Department, History Department, Sports Management Department, Real Estate and Built Environment Department, Administrative Policy Department, Law Department and Statistics Department. Classes 15-19 were students mainly from three departments, including the Business Administrative Department, Economics Department and Information Engineering Department.

**Table 7.2** Details of the 19 classes

Level	Class	Pre-reading	Pre-Listening	Pre-test avg.
3	X1	49	38	43
3	X2	69	56	63
3	X3	33	32	33
2	X4	74	58	66
2	X5	73	53	63
1	X6	82	75	78
3	X7	57	50	54
1	X8	77	73	76
3	X9	55	45	50
2	X10	74	66	70
3	X11	53	37	45
2	X12	66	51	58
3	X13	55	42	49
1	X14	80	75	77
2	X15	67	58	62
3	X16	43	34	39
3	X17	65	49	57
2	X18	73	59	66
1	X19	79	61	70

### 7.3 Measurement in the main study

This questionnaire aimed to assess student motivation to learn English, attitudes towards ability grouping classes, self-efficacy, achievement goal, self regulation and the attribution to the success or failure of English learning. After conducting the pilot study, the questionnaire items in the main study were conducted comprising 11 multi-item scales, a total of 43 items (see Appendix B). The co-efficient alphas of the items for all measures in this research has been verified in the pilot study using Cronbach's Alpha and have reliabilities, ranging from 0.579 to 0.88. The details were discussed in the section 6.5 and coefficient alpha for each scale were listed in Table 6.2.



## **7.4 Overview of data analysis in main the study**

This section was separated into three parts: firstly, descriptive information of the data in the main study would be provided. The mean and the standard deviations on 11 scales for different level of classes and further analysis were presented in section 7.4.1. Secondly, the correlation analyses were conducted to test the research hypotheses, and it was followed by an implementation of linear regression analyses in order to assess which motivational variables could predict student achievement. In the final part, the study examined the differences in different levels by using one-way ANOVA and assessed gender difference by using a t-test.

### **7.4.1 Descriptive statistics in the main study**

The results of descriptive statistics for all scales in the public university were presented, and the total number of students, mean, standard deviation, skewness and the kurtosis of all scales were shown in Table 7.3 for the students in public university. In addition, Tables 7.4, 7.5, and 7.6 demonstrated furthermore the descriptive statistics results of 11 motivation scales in three different levels; respectively advanced, higher intermediate, and intermediate levels.

With respect to the mean of 11 motivation scales for three different levels in the public university presented in Tables 7.4 to 7.6, the results answered the research question in the main study. Firstly, the findings revealed a high level throughout the three different levels in instrumentality structure, respectively in the advanced level ( $M=4.10$ ,  $SD=0.622$ ), higher-intermediate level ( $M=4.12$ ,  $SD=0.563$ ), and in the intermediate level group ( $M=4.00$ ,  $SD=0.668$ ). The same findings were evident when examining expectancy-value structure and self-efficacy. The mean of the higher intermediate level group was higher than the other two levels, advanced level and intermediate level. Regarding the degree of standard deviation in these three motivational variables, the values among the three levels which were below 1.0 ranged from .554 to .668. When compared to nine other motivation variables, the results also showed that the mean values in the instrumentality scale,

expectancy-value scale and the self-efficacy scale were relatively higher than other motivational scales (Table 7.3).

**Table 7.3** Description of all motivation scales in the main study

	N of students	Mean	SD	Skewness	Kurtosis
PAG	681	3.37	0.739	-0.482	0.730
INS	680	4.07	0.621	-0.890	1.893
EXVA	680	3.76	0.614	-0.241	0.162
SERE	681	3.07	0.601	-0.424	1.167
MAAP	681	3.60	0.633	-0.430	0.816
PEAP	681	3.30	0.668	-0.055	0.456
MAAV	681	3.50	0.593	0.060	0.635
PEAV	681	3.44	0.650	-0.206	0.676
SEEF	681	3.47	0.621	-0.302	0.504
ATSU	681	2.69	0.663	-0.183	0.780
ATFA	681	2.83	0.589	-0.508	1.460

Abbreviations: PAG=Perception of ability grouping, INS= Instrumentality, EXVA=Expectancy-value, SERE=Self-regulation, MAAP= Mastery Approach, PEAP=Performance Approach, MAAV=Mastery Avoidance, PEAV= Performance Avoidance, SEEF=Self-efficacy, ATSU=Attribution of success, ATFA= Attribution of failure.

The mean of student perception of ability grouping also revealed higher values for student in the higher-intermediate level, and this indicated that students in that level are more in favour of ability grouping. This scale asked student perceptions of ability grouping; the questions referred to their interest in learning, understanding in class, confidence, performance and effectiveness in ability grouping classes. The findings indicated that students in higher ability (advanced level and higher-intermediate level) had a better perception than student in the lower ability level.

For the student self-regulation scale, the questions attempt to examine student efforts in the learning process. The results in this scale revealed a different view from the student perception of ability grouping and other motivational variables. The mean value for

students in the advanced level was the lowest among the three levels ( $M=3.03$ ;  $SD=0.622$ ); that is to say, students with higher ability spent less effort in learning compared to the other two levels (higher intermediate level,  $M=3.12$ ,  $SD=0.563$ ; intermediate level,  $M=3.06$ ,  $SD=0.623$ ).

In the phase regarding student achievement goal structure, the mean values showed a marginally different finding than other motivation variable. The mean figures in performance-approach structure and performance-avoidance structure were lower than in the mastery-approach structure and mastery-avoidance structure. Overall, the mean value of student perception of mastery-approach was significantly higher than mastery-avoidance, performance-approach and performance-avoidance. This suggests that students experienced a higher degree in mastery-approach ( $M=3.60$ ,  $SD=0.633$ ) in terms of language learning in an ability-grouping class. Conversely, the mean value of student perception of performance-approach was the lowest ( $M=3.30$ ,  $SD=0.668$ ). This suggests that students had lower degree of performance-approach goal whether they are at higher ability level or the lower one. The results further indicate that students in lower ability group had a higher mean ( $M=3.47$ ,  $SD=0.529$ ) in the performance-avoidance structure than those in advance level group ( $M=3.36$ ,  $SD=0.681$ ) and higher intermediate level ( $M=3.46$ ;  $SD=0.692$ ).

For the attribution of success and failure scales, the mean values in this stage were relatively lower compared to other motivational variables. The mean value of student perception of attribution of success was the lowest whether students were in the advanced level, higher intermediate level or intermediate level group. In addition, the lowest degree was found in the advanced level group ( $M=2.43$ ,  $SD=0.616$ ) while the mean value of students in the intermediate level group was the highest among all three level groups ( $M=2.85$ ;  $SD=0.660$ ). Moreover, the findings in attribution of failure showed that the mean value in intermediate level group was again the highest among three different levels. Comparing the two structures in student perception of attribution, the mean values were marginally higher in the perception of attribution of failure than in the attribution of

success. The details for the descriptive statistics of 11 scales among three different levels are presented in the following tables.

**Table 7.4** Descriptive statistics for motivational scales at advanced level

	<b>Mean</b>	<b>Std. Deviation</b>	<b>Skewness</b>	<b>Kurtosis</b>
PAG	3.46	0.762	-0.261	0.139
INS	4.10	0.629	-0.801	1.925
EXVA	3.80	0.632	-0.194	0.035
SERE	3.03	0.622	-0.376	1.129
MAAP	3.59	0.689	-0.249	0.132
PEAP	3.31	0.653	0.139	-0.133
MAAV	3.49	0.622	0.045	0.046
PEAV	3.36	0.681	-.025	-0.055
SEEF	3.48	0.643	0.055	-0.017
ATSU	2.43	0.616	-0.692	0.073
ATFA	2.61	0.605	-1.019	0.847

Abbreviations: PAG=Perception of ability grouping, INS= Instrumentality, EXVA=Expectancy-value, SERE=Self-regulation, MAAP= Mastery Approach, PEAP=Performance Approach, MAAV=Mastery Avoidance, PEAV= Performance Avoidance, SEEF=Self-efficacy, ATSU=Attribution of success, ATFA= Attribution of failure.

**Table 7.5** Descriptive statistics for motivational scales at higher intermediate level

	<b>Mean</b>	<b>Std. Deviation</b>	<b>Skewness</b>	<b>Kurtosis</b>
PAG	3.48	0.631	-0.348	1.400
INS	4.12	0.554	-0.640	1.220
EXVA	3.85	0.564	-0.111	0.126
SERE	3.12	0.563	-0.341	1.137
MAAP	3.68	0.598	-0.411	0.537
PEAP	3.37	0.643	0.155	0.309
MAAV	3.58	0.583	0.326	0.013
PEAV	3.46	0.692	-0.260	1.246
SEEF	3.59	0.576	-0.399	1.153
ATSU	2.70	0.642	-0.181	0.538
ATFA	2.85	0.564	-0.264	1.008

Abbreviations: PAG=Perception of ability grouping, INS= Instrumentality, EXVA=Expectancy-value, SERE=Self-regulation, MAAP= Mastery Approach, PEAP=Performance Approach, MAAV=Mastery Avoidance, PEAV= Performance Avoidance, SEEF=Self-efficacy, ATSU=Attribution of success, ATFA= Attribution of failure.

**Table 7.6** Descriptive statistics for motivational scales at intermediate level

	<b>Mean</b>	<b>Std. Deviation</b>	<b>Skewness</b>	<b>Kurtosis</b>
PAG	3.22	0.793	-0.552	0.384
INS	4.00	0.668	-0.996	1.845
EXVA	3.65	0.632	-0.300	0.132
SERE	3.06	0.623	-0.488	1.174
MAAP	3.52	0.622	-0.601	1.564
PEAP	3.23	0.694	-0.319	0.743
MAAV	3.43	0.579	-0.185	1.538
PEAV	3.47	0.586	-0.245	0.371
SEEF	3.36	0.631	-0.415	0.385
ATSU	2.85	0.660	-0.050	1.104
ATFA	2.95	0.568	-0.327	1.886

Abbreviations: PAG=Perception of ability grouping, INS= Instrumentality, EXVA=Expectancy-value, SERE=Self-regulation, MAAP= Mastery Approach, PEAP=Performance Approach, MAAV=Mastery Avoidance, PEAV= Performance Avoidance, SEEF=Self-efficacy, ATSU=Attribution of success, ATFA= Attribution of failure.

## 7.5 Testing the Research Hypotheses

The results obtained from the student questionnaire and their pre and post test were analysed in order to examine whether ability grouping is beneficial to enhance student motivation in language learning as well as their achievement. In order to test the research hypotheses in this study, the analysis was presented in several steps. Firstly, the internal consistency analysis of the items in the questionnaire was presented and the reliability results were shown to be reliable in the previous section (see section 6.5). Therefore, a further investigation of data was carried out and linked to the early hypothesis made in Chapter 4. In the next step, a correlation co-efficient was used to examine the relationships in each motivation scale in order to examine the correlations of motivational variables in hypotheses one through to four.

### 7.5.1 Results of correlation Analysis: The relations among motivational variables

*Hypotheses 1 to 4* anticipated a positive correlation between student perception of ability grouping and ten motivational variables, so the inter-correlation among motivational variables was investigated using the product-moment correlation co-efficient (*Pearson's r*). The results presented in Table 7.7 support some of the predictions from this research. Among all the 11 motivational variables, there were significant correlations between student perceptions of the ability grouping and the eight motivational variables, excluding student perception of attribution of success and their perception of attribution of failure. With respect to the research question, student perceptions of ability grouping are high and significant positively related to some motivational variables, including instrumentality ( $r=.310, p<0.01$ ), and expectancy-value ( $r=.461, p<0.01$ ).

The same result was found in correlation analysis that student perception of instrumentality structure also had significant association with all the motivational variables except student perception of attribution of failure. The findings revealed a high correlation between student perception of instrumentality and the perception of expectancy-value ( $r=.735, p<0.01$ ). Furthermore, with respect to the relationship between student perception of instrumentality and student perception of self-efficacy, there was a marginal high association between these two specific variables ( $r=.436, p<0.01$ ).

*Hypothesis 2* anticipated that student perception of ability grouping was positively correlated with student self-efficacy and self-regulation. The results are presented in Table 7.7. The prediction of this hypothesis was supported that self-regulation ( $r=.365, p<0.01$ ) and self-efficacy ( $r=.461, p<0.01$ ) are highly related to their perception of ability grouping. Furthermore, the findings regarding student self-regulation revealed significant correlation with all other motivational variables (ranging from  $r=.136, p<0.01$  to  $r=.507, p<.01$ ), while the perception of self-efficacy was also significantly associated with all other variables (ranging from  $r=-.181, p<0.01$  to  $r=.670, p<0.01$ ). These findings provided evidence regarding how students felt about the ability grouping classes would relate to the degree of their self-efficacy belief and self-regulation in the language learning process. Upon closer inspection of student perception of self-efficacy and self-regulation, the researcher found

positive correlations with other motivational beliefs (instrumentality, mastery-approach, performance-approach, mastery-avoidance, performance-avoidance, and attribution of success) in this study.

*Hypotheses 3 and 4* concerned the relationship between student perceptions of the ability grouping and their perception of performance-approach, mastery-approach, performance-avoidance and mastery-avoidance. The results showed significant correlation in this section in that the student perception of ability grouping was significantly associated with performance-approach ( $r=.420, p<0.01$ ), performance-avoidance ( $r=.232, p<0.01$ ), mastery-approach ( $r=.502, p<0.01$ ) and mastery-avoidance ( $r=.455, p<0.01$ ). This finding suggests that students with a more positive attitude towards ability grouping would significantly associate with both their mastery goal orientation (mastery-approach structure and mastery-avoidance) and furthermore to their performance goal orientation (performance-approach and performance-avoidance). In addition, the findings in this research were consistent with the work conducted in a Western context that performance approach orientation was positively associated with the self-reported effort and persistence of undergraduate students (Elliot and McGregor, 1999). It is also synonymous with studies conducted in East Asian culture that there were positive correlations between mastery goal, and performance goal orientation (Bong, 2008; Ho and Hau, 2008; Shih, 2005a).

**Table 7.7** Correlation for all motivation scales

	1	2	3	4	5	6	7	8	9	10	11
1. PAG (Perception of ability grouping)	--										
2. INS (Instrumentality goal)	.310**	--									
3. EXVA (Expectancy-value goal)	.379**	.735**	--								
4. SERE (Self-regulation goal)	.365**	.274**	.378**	--							
5. MAAP (Mastery Approach goal)	.502**	.530**	.594**	.507**	--						
6. PEAP (Performance Approach goals)	.420**	.393**	.507**	.458**	.622**	--					
7. MAAV (Mastery Avoidance goals)	.455**	.456**	.499**	.456**	.686**	.519**	--				
8. PEAV (Performance Avoidance goals)	.232**	.227**	.250**	.296**	.357**	.365**	.495**	--			
9. SEEF (Self-Efficacy goals)	.461**	.436**	.557**	.409**	.604**	.670**	.481**	.193**	--		
10. ATSU (attribution of success)	-.052	-.100**	-.121**	.149**	-.071	-.105**	-.003	.216**	-.264**	--	
11. ATFA (attribution of failure)	.010	-.015	-.065	.136**	-.038	-.099**	.026	.219**	-.181**	.914**	--

Correlation is significant at the 0.01 level (2-tailed).\*\*



Regarding all the motivational variables which were significantly related to student perceptions of the ability grouping, student perception of mastery approach was higher when compared to all the other variables ( $r=.502, p<0.01$ ). This finding did not support the prediction of Hypothesis 3 that Taiwanese students appear to be in favour of performance-approach goals in language learning. In contrast, the results of the present study showed that surveyed students are more likely to experience higher mastery-approach goal when they learn English in an ability group context. It was further noted that student perception of the mastery approach structure was positively correlated to all the other eight motivational variables, while student perception of attribution of success and attribution of failure were not significantly correlated with student mastery-approach goal structure ( $r=-0.071, -0.038$ , respectively. n.s.).

In addition, the relationship between the achievement goal theory structures is significantly positively correlated; this finding partially supported *Hypothesis 4* that the correlation were associated. The correlation co-efficient between student perception of the mastery-approach structure and the mastery-avoidance structure was the strongest ( $r=0.686, p<0.01$ ). The results in the present study subsequently showed that the mastery-avoidance structure had a significant correlation with the mastery-approach structure and performance-approach structure ( $r=0.686, 0.519$  respectively.  $p<0.01$ ). The performance-avoidance structure in this study, on the other hand, had lower but still significant correlations with the three other structures, respectively the performance-approach structure, the mastery-approach and mastery-avoidance ( $r=0.365, 0.357, 0.495. p<0.01$ ).

*Hypotheses 5 and 6* concerned the relationship between student perception of self-efficacy and other motivational variables hypothesised positive correlations between self-efficacy and the motivational variables. Student perception of self-efficacy, significant correlations was found to be related to all the motivational variables, including student perception of ability grouping ( $r=.461, p<0.01$ ), instrumentality ( $r=0.436, p<0.01$ ), expectancy-value ( $r=0.557, p<0.01$ ), self-regulation ( $r=0.409, p<0.01$ ), mastery-approach ( $r=0.604, p<0.000$ ), mastery-avoidance ( $r=0.670, p<0.01$ ), performance-approach ( $r=0.481, p<0.01$ ), performance-avoidance ( $r=0.193, p<0.01$ ), attribution of success ( $r=-0.264, p<0.01$ ), and

attribution of success ( $r=-0.181$ ,  $p<0.01$ ). The findings indicated a considerably stronger relationship between student perception of self-efficacy and their mastery goal orientations (mastery-approach structure and mastery-avoidance) and a positive relationship with all of the motivational variables.

Consequently, these results also provided evidence for the prediction in *Hypothesis 6* that student perception of self-efficacy was significantly correlated to student perception of self-regulation. This finding is consistent with previous research studies that students with higher self-efficacy would produce more effort in self-regulatory learning (Collins, 1982; Butkowsky and Willows, 1980; Schunk, 1994).

*Hypotheses 7 to 9*, concerned the relationship between student perception of attributions and motivational variables, which were then discussed to examine whether students at ability grouping classes were more likely to make attributions in language learning. The findings first revealed a correlation between student perceptions of the attribution of success and their self-efficacy belief, and a correlation between their perceptions of attribution of failure and their self-efficacy belief. The results partially supported the prediction of Hypothesis 7 that student perception of attribution of success would be significantly correlated to their self-efficacy but not correlated ( $r=-0.264$ ,  $p<0.01$ ). Meanwhile, Hypothesis 7 assumed student perception of attribution of failure was negative and significant correlated to student perception of self-efficacy, which was supported in this study ( $r=-0.181$ ,  $p<0.01$ ). Upon closer inspection of the correlation of attributes, the present study analyses whether student belief in ability, effort, task difficulties and luck may have an influence upon their motivation to learn English (reported in Appendix C, Table A). The results in this study revealed that students with higher level of self-efficacy would relate their success in learning to the beliefs of ability ( $r=0.627$ ,  $p<0.01$ ), their ability and the task difficulty ( $r=0.463$ ,  $0.436$  respectively.  $p<0.01$ ), whilst those with higher self-efficacy would relate their failure to ability ( $r=-0.342$ ,  $p<0.01$ ) and task difficulties ( $r=-0.188$ ,  $p<0.01$ ). The findings agreed with previous research studies that students who attribute success to ability and effort would experience higher self-efficacy and remain motivated to learn (Schunk, 1994). In this study, the findings indicated that

most students at ability groups appear to attribute their success in English learning to the belief in their ability to perform well.

In addition to the correlation of student perception of attribution of success and failure with other motivational variables, there were few significant associations found in the two scales. The student perception of attribution of success was significantly correlated with student perception of instrumentality ( $r=-0.100$ ,  $p<0.01$ ), student perception of expectancy-value ( $r=-0.121$ ,  $p<0.01$ ), student perception of self-regulation ( $r=0.149$ ,  $p<0.01$ ), student perception of performance-approach ( $r=-0.105$ ,  $p<0.01$ ), student perception of performance-avoidance ( $r=0.216$ ,  $p<0.01$ ) and student perception of self-efficacy ( $r=-0.264$ ,  $p<0.01$ ). The findings showed no significant correlations between student perception of ability grouping, student perception of mastery-approach and student perception of mastery-avoidance goals.

With respect to student perception of attribution of failure, the research findings showed negative and insignificant correlation between instrumentality ( $r=-0.015$ , n.s.), and expectancy-value goals ( $r=-0.065$ , n.s.). Furthermore, student perception of attribution of failure was negatively correlated to student perception of performance-approach ( $r=-0.099$ ,  $p<0.01$ ), their perception of self-efficacy ( $r=-0.181$ ,  $p<0.01$ ), and a positive correlation between student perception of attribution of failure and student perception of self-regulation and perception of performance avoidance ( $r=0.136$ ,  $r=0.219$ , respectively.  $p<0.01$ ).

To conclude, the findings in the main study supported some of the research hypotheses and furthermore produced findings consistent with previous research studies concerning the correlation of motivational variables, showing that there was significant positive correlation among student motivational beliefs, self-regulation and attributions (Urdu and Turner, 2005; Hsieh and Schallert, 2008; Shih, 2002; Wigfield and Eccles, 2002).

### **7.5.2 Results of linear regression analyses: The relations between motivational variables and students' academic achievement**

In order to examine the relationship between motivational variables and student achievement, simple linear regression was undertaken to illuminate further how well these motivational variables and student ability level can predict student academic achievement (post-test scores) in an ability-grouping context. Simple regression is a parametric statistical technique that is used to predict one variable on the basis of several other variables. Similar research was conducted in this area suggesting student perceived ability is an important predictor of language learning and their attitude towards learning (Ames and Archer, 1988). Accordingly, a direct regression analysis was used to examine the relationship between criteria (student post-test scores) and a whole set of predictors (motivation scales) in order to test the research hypotheses.

*Hypotheses 10 to 15* were concerned with the motivational variables on student achievement (post-test scores), and the aims of the hypotheses were to explore whether student academic achievement (post-test scores) was related to and furthermore could be predicted by each of the motivation scales or their ability level. The scales here refer to student perception of ability grouping class, the level of English ability, instrumentality, expectancy-value, self-regulation, mastery-approach, mastery-avoidance, performance-approach, performance-avoidance, self-efficacy, attribution of success and attribution of failure.

A regression analysis predicting student achievement (post-test scores) with motivational variables was shown in table 7.8 that the results constant explained 89% of variance as indexed by adjusted R-Square,  $F(5,13)=32.259$ ,  $P<.01$ . Furthermore, analysis results indicated significant relationships between student achievement with their perception of expectancy-value scale and their ability level. That is, there was a significant correlation between the student perception of expectancy-value structure and the actual predicted student post-test scores ( $\beta=0.767$ ,  $p<0.05$ ), student perception of mastery-avoidance ( $\beta=0.767$ ,  $p<0.05$ ), and student ability level significantly predicted their post-test scores ( $\beta= -1.053$ ,  $p<0.001$ ).

**Table 7.8** Summary of simple regression analysis for variable predicting post-test scores

Predictor Variable	B	Std. Error	$\beta$	t	Sig.
(Constant)	4.764	34.076		.140	.893
PAG	-13.557	9.113	-.339	-1.488	.187
INS	26.554	14.715	.404	1.805	.121
EXVA	42.783	12.530	.767	3.414	.014
SERE	36.421	16.851	.515	2.161	.074
MAAP	-8.162	12.808	-.142	-.637	.547
PEAP	-35.386	21.246	-.567	-1.666	.147
MAAV	-61.947	22.312	-.850	-2.776	.032
PEAV	14.458	9.604	.241	1.505	.183
SEEF	-9.546	12.958	-.205	-.737	.489
ATSU	26.679	8.706	.687	3.065	.022
ATFA	7.132	13.285	.163	.537	.611
ability level	-12.497	2.114	-1.053	-5.912	.001
R-Square			.963		
Adjusted R-Square			.890		
F-Value			13.096		

Abbreviations: PAG=Perception of ability grouping, INS= Instrumentality, EXVA=Expectancy-value, SERE=Self-regulation, MAAP= Mastery Approach, PEAP=Performance Approach, MAAV=Mastery Avoidance, PEAV= Performance Avoidance, SEEF=Self-efficacy, ATSU=Attribution of success, ATFA= Attribution of failure.

A number of research studies concerning the motivation achievement goal in undergraduate students have indicated the results that motivational outcomes were highly associated with a mastery goal orientation (Harackiewicz et al, 2002; Richey et al., 2014; Wolters 2003). Table 7.8 summarised the results of the regression with the four constructs in Elliott and McGregor's (2001) achievement goal theory, i.e. student perception of mastery-approach, mastery-avoidance, performance-approach and performance-avoidance as predictors of student achievement (post-test scores). The finding showed that mastery-avoidance ( $\beta=-0.850$ ,  $p<0.005$ ) was the only significant predictor of student post-test scores for the four constructs in the achievement goal theory, and the results indicated that mastery-approach ( $\beta=-0.142$ , ns), performance-approach ( $\beta=-0.567$ , ns) and performance-avoidance ( $\beta=0.241$ , ns) were not significant predictors. Accordingly, results

in this analysis partially supported previous research studies that mastery-avoidance can negatively predict student achievement. Hypothesis 10 was also rejected and it was concluded that student post-test scores cannot be predicted by their perception of performance approach and performance avoidance. In addition to this, the analysis results partially supported a prediction in Hypothesis 11 that student mastery avoidance can negatively predict their post-test scores.

As shown in the previous analyses, Hypothesis 12 demonstrated a possible link between attribution theory and student academic achievement of English learning was rejected. Student perception of attribution of failure ( $\beta=0.163$ , ns) and attribution of success ( $\beta=0.687$ , ns) failed to predict their post-test scores. Similarly, student perception of other motivational variables, i.e. instrumentality, self-regulation, self-efficacy were not significant predictors of student post-test scores. The findings failed to support the prediction in Hypothesis 13 in that student perceptions of instrumentality, self-regulation, self-efficacy did not significantly predict their post-test scores. Although these motivation theories failed to predict student post-test scores in this thesis, student perception of expectancy-value showed a different finding. That is, student expectancy-value had a significant and positive effect on their post-test scores.

Additionally, Hypothesis 14 concerned the relationship between student perception of ability grouping and their post-test scores was also rejected ( $\beta=-0.339$ , ns). This finding did not support the previous research that student attitude toward ability grouping can predict their academic performance (Liu, 2008; Ryan and Deci, 2000). Despite the fact that student attitude toward ability grouping failed to predict their exam results, their ability level was a significant predictor of their post-test scores, and furthermore, the analysis results supported the prediction in Hypothesis 15 that student achievements could be predicted by their ability level ( $\beta= -1.053$ ,  $p<0.001$ ).

In summary, these analyses showed that among all predictors, student perception of expectancy-value, perception of mastery-avoidance and their ability level were significant predictors of their exam performance in an ability grouping context.

### 7.5.3 Motivation difference on genders

Hypothesis 16 anticipated that there was a difference in motivation between genders. Therefore, an independent t-test was conducted to examine the differences between the motivational variables of male student group and female student group (Table 7.9). A comparison of findings revealed higher mean values for female students in nine out of eleven motivation variables. The variables include eleven sub-scales: instrumentality, expectancy-value, self-efficacy, performance-approach, performance-avoidance, mastery-approach, mastery-avoidance, student perception of attribution of success, student attribution of failure, student self-regulation and student perception of ability grouping. Conversely, male students had a higher mean values in just two out of the eleven variables, and these were attribution of success and attribution of failure.

**Table 7.9** Mean scores (and standard deviations) and t-value for male and female students

	Male	Female	t	Sig.
Perception of ability grouping (PAG)	3.35 (.763)	3.39 (.722)	-0.789	0.291
Instrumentality (INS)	3.95 (.684)	4.15 (.559)	-4.286**	0.007
Expectancy-Value (EXVA)	3.44 (.675)	3.83 (.559)	-3.484**	0.001
Self-Regulation (SERE)	3.01 (.670)	3.12 (.546)	-2.162**	0.038
Mastery Approach (MAAP)	3.51 (.683)	3.65 (.591)	-2.915**	0.004
Performance Approach (PEAP)	3.29 (.712)	3.31 (.637)	-.433**	0.025
Mastery Avoidance (MAAV)	3.46 (.628)	3.53 (.567)	-1.522	0.075
Performance Avoidance (PEAV)	3.42 (.681)	3.45 (.628)	-0.651	0.341
Self-Efficacy (SEEF)	3.43 (.711)	3.50 (.550)	-1.595**	0
Attribution of success (ATSU)	2.74 (.739)	2.66 (.603)	1.668**	0.002
Attribution of failure (ATFA)	2.88 (.645)	2.80 (.555)	1.767	0.112

Furthermore, male students ( $M=3.35$ ,  $SD=0.763$ ) and female students ( $M=3.39$ ,  $SD=0.722$ ) did not differ significantly on the perception of ability grouping,  $t=-0.789$ ,  $p=n.s.$  This finding indicated that there would be no differences between male students and female students with regards to their attitudes towards ability grouping.

The mean scores for female students were higher than male students in terms of the perception of instrumentality, expectancy-value structure and self-efficacy structure. It was discovered that gender differences were significant in these three motivation scales, i.e. instrumentality ( $t(1)=-4.286$ ,  $p<0.05$ ), expectancy-value ( $t(1)=-3.484$ ,  $p<0.05$ ), and self-efficacy ( $t(1)=-1.595$ ,  $p<0.000$ ), which suggested that female students experienced more instrumentality, expectancy-value and self-efficacy than male students.

Furthermore, female students also had higher mean scores in four motivational constructs in achievement goal structure, in particular, performance-approach scale ( $t(1)=-0.433$ ,  $p<0.05$ ) and mastery-approach scale ( $t(1)=-2.91$ ,  $p<0.05$ ) exhibited greater gender differences. Also, female students reported a higher degree of avoidance motivational tendency in two motivation scales: performance-avoidance scale ( $M=3.45$ ,  $SD=0.628$ ) and mastery-avoidance scale ( $M=3.53$ ,  $SD=0.567$ ); however, the gender differences were not significant in these two scales, respectively  $t(1)=-0.651$ ,  $p=n.s.$ ;  $t(1)=-1.522$ ,  $p=n.s.$  The results revealed that female students experienced more in mastery-approach scale and performance-approach scale, and it is these two gender scales where the most significant differences were to be found. Female students were found to have higher mean scores in performance-avoidance scale and mastery-avoidance scale; however, the findings did not indicate any differences between the genders in these two scales.

In contrast, male students had higher mean scores in the scales of attribution of success and attribution of failure. The findings indicated that female students experienced less in these two scales. The differences in the scale of attribution of success between genders was significant ( $t=0.668$ ,  $p<0.05$ ); however, the differences of attribution of failure were not significant between the genders.

Thus, female students were further found to have experienced more in the self-regulation scale, and the differences were significant between genders ( $t=-2.162$ ,  $p<0.05$ ). In line with



previous research studies on gender differences in relation to student achievement, female students in this study had a higher degree of most motivation variables to learn English than did males. In summary, the findings mainly supported Hypothesis 16 that there would be differences between the genders regarding their motivation variables.

#### **7.5.4 Results of differences among three ability level groups**

*Hypothesis 17* was concerned with the differences between students in advanced level (A), higher-intermediate level (B) and intermediate level (C) among 11 motivation variables and their perception of ability grouping. This hypothesis was investigated by using one-way Analysis of Variance (ANOVA), and the post-hoc comparisons were conducted via using the method of Tukey HSD, if the main effects were significant. This method aimed to distinguish which groups were different from one another, and the results can be seen in table 7.10.

In relating the results to the overall mean scores for the entire motivational scales, this research firstly examined the three motivation variables: instrumentality, expectancy-value and self-efficacy goals. It can be seen that the students in each level had a similar attitude towards the instrumentality structure. The mean of the scale in instrumentality was the highest among all scales ranging at 4.10 in advanced level (A), 4.12 in higher-intermediate level (B) to 3.99 in intermediate level (C). However, an ANOVA revealed that these differences were not significant for instrumentality structure ( $F(2, 678) = 2.93, p < .054$ ). In terms of the expectancy-value structure, group B students reported a higher need than group A and group C students did. The results of ANOVA were significant ( $F(2, 678) = 6.78, p < .001$ ) and post-hoc comparisons revealed significant differences between groups A and C, and groups B and C, but no significant difference was found here between groups A and B. Higher-intermediate students (group B) also had a higher mean than the other two groups in terms of the self-efficacy motivation. The results of ANOVA were significant ( $F(2, 678) = 22.728, p < 0.000$ ), and the post-hoc comparison using the Tukey HSD methods revealed that there were significant differences between groups B and C, but no significant difference was found between group A and B or between group A and C.

Consequently, the mean values in achievement goal structure revealed the results of three-item performance approach scale, the three item mastery-approach scale, the three item performance avoidance, and the three item mastery avoidance scale. The ANOVA for the performance approach orientation revealed that the main effect was not significant ( $F(2, 678)=2.655, p<0.71$ ) and there were also no significant main effects for the three different levels in the performance avoidance orientation ( $F(2, 678)=1.69, p<0.18$ ). However, students in higher-intermediate level saw themselves as experiencing more in the mastery approach scale than the other two groups, and significant differences were found in this scale ( $F(2, 678) =1.72, p<0.013$ ). The post-hoc comparisons using the Tukey HSD methods for significance revealed that higher-intermediate level was significantly higher than advanced level and intermediate level; the differences between groups B and C were particularly significant. In terms of the mastery avoidance scale, the results of ANOVA were again significant ( $F(2, 678)=3.52, p<0.03$ ), and the post-hoc comparisons using the Tucky HSD methods for significance revealed that higher-intermediate level was significantly higher than advanced level and intermediate level; the difference between group B and C was also significant.

The findings then showed the means, out of a total of four for each, for the three item attribution of success construct and for the three item attribution of failure construct. In terms of attribution of success scale the results of ANOVA were significant ( $F(2, 678)=22.728, p<0.000$ ) and post-hoc comparison using Tucky HSD revealed that higher-intermediate level had a higher structure than advanced level and intermediate level. In relation to attribution of failure, it was reported that the mean for students in intermediate level was significantly higher than higher-intermediate level and advanced level. The results of ANOVA were again important ( $F(2, 678)=18.069, p<0.000$ ) and post-hoc comparisons using the Tucky HSD showed significant differences among the three level groups: between A and B, between A, and C and between B and C.

Furthermore, six items in the questionnaire were used to measure student self-regulation, the mean and standard deviation of the scale revealed that students in higher-intermediate level experienced higher self-regulated learning. The results of ANOVA in this scale

revealed there was no significant main effect among students in different levels ( $F(2, 678)=1.203, p<0.30$ ).

To examine whether there was a difference among students in different levels of English ability in their perception of ability grouping class, five items in the questionnaire were measured in this scale to observe student perception of ability grouping. Students in higher-intermediate level (group B) reported a greater perception of ability grouping than either of the other groups. The findings revealed the mean score for different levels differed significantly ( $F(2, 678)=4.93, p<0.000$ ), and the post-hoc comparison using Tucky HSD revealed that there were significant differences between group A and C, and between group B and C.

These findings paralleled previous research studies on language levels in student achievement. Specifically, some factors such as student gender, age, and student level all play important parts in the motivations of language learning. In the findings, the differences among different English levels were significant in seven out of eleven motivation variables. That is, most predictions in Hypothesis 17 were supported.

**Table 7.10** Descriptive of mean and standard deviation among 11 variables

	Advanced level (A)  N=167	Higher Intermediate level (B)  N=248	Intermediate level (C )  N=266	A-B	A-C	B-C
Perception of ability grouping (PAG)	3.46(.76)	3.47(.63)	3.22(.79)	-0.015	.238*	.252*
Instrumentality (INS)	4.10(.63)	4.12(.55)	3.99(.64)	-0.019	0.16	0.124
Expectancy-Value (EXVA)	3.80(.63)	3.84(.56)	3.65(.63)	-0.044	.147*	.190*
Performance Approach (PEAP)	3.30(.65)	3.36(.64)	3.23(.69)	-0.058	0.077	0.135
Mastery Approach (MAAP)	3.59(.68)	3.68(.59)	3.51(.62)	-0.085	0.079	.164*
Performance Avoidance (PEAV)	3.35(.68)	3.46(.69)	3.46(.58)	-0.103	-0.109	-0.006
Mastery Avoidance (MAAV)	3.48(.62)	3.57(.58)	3.43(.57)	-0.086	0.052	.138*
Attribution of success (ATSU)	3.06(.59)	3.12(.58)	2.92(.66)	-.270*	-.427*	-.157*
Attribution of failure (ATFA)	2.43(.61)	2.70(.64)	2.85(.66)	-.238*	-.339*	-.101*
Self-Regulation (SERE)	3.02(.62)	3.11(.56)	3.06(.62)	-0.091	-0.037	0.054
Self-Efficacy (SEEF)	3.48(.64)	3.59(.57)	3.36(.63)	-0.108	0.125	.233*

\*\*  $p < .01$ , \*  $p < .05$

### 7.5.5 Changes in academic achievement

Hypothesis 18 was to examine whether student achievements in the English course changed throughout an entire academic year consisting of two semesters. In this study, students took two examinations in the first week of the first semester; one was to assess their listening ability and the other was to assess their reading ability, the average of these two examinations formed the pre-test scoring. Following this, in the last week of the second semester the students were required to take the second test in which their listening ability and reading ability were measured, the average of these two tests formed the post-test scoring.

**Table 7.11** The mean of pre and post test

	Level	Class	Pre-test avg.	Post-test avg.
Advanced Level	1	X6	78	81
	1	X8	76	79
	1	X14	77	79
	1	X19	70	73
Higher	2	X4	66	71
Intermediate Level	2	X5	63	68
	2	X10	70	73
	2	X12	58	68
	2	X15	62	73
Intermediate Level	2	X18	66	69
	3	X1	43	54
	3	X2	63	67
	3	X3	33	47
	3	X7	54	63
	3	X9	50	62
	3	X11	45	62
	3	X13	49	57
	3	X16	39	51
	3	X17	57	63

Thus, in order to compare student language learning achievements between two different phases (pre-test and post-test), a paired-sample t-test was conducted to see if there was a significant difference in student listening scores, reading scores and the overall scores (the pre-test and post-test). The findings revealed that the means of post-test results were higher than the pre-test scores, and there were significant differences between the two variables.

The paired-samples t-test was conducted to compare student achievement in two different phases: pre-test scoring and post-test scoring (table 7.12). From this there was found to be a significant difference between pre-test and post-test. The mean of the post-test scoring was higher, and a paired-sample t-test revealed that scores were greater for the post-test sub-scale ( $M=66.31$ ,  $SD=9.55$ ) than for the pre-test scores ( $M=58.87$ ,  $SD=13.22$ ). It is shown that the differences between the two tests were significant ( $t(19)=7.36$ ,  $p<0.000$ ).

**Table 7.12** T-test output of test results

	Mean Difference	SD	t	df	Sig. (2-tailed)
Proficiency Test	7.43381	4.40157	7.362	18	.000
Listening	10.51635	3.36860	13.608	18	.000
Reading	4.30485	6.65931	2.818	18	.011

Additionally, the second pair-samples t-test further compared the listening section across the two different phases, and the results indicated that the scores on post-listening sub-scale ( $M=63.87$ ,  $SD=12.06$ ) were higher than scores on the pre-listening sub-scale ( $M=53.35$ ,  $SD=13.49$ ). These differences in the listening scales were again considerable ( $t(19)=13.60$ ,  $p<0.000$ ). Furthermore, there was only a marginal difference in the reading section of the two different phases. A paired-sample t-test indicated that scores were higher for the post-test sub-scale ( $M=68.73$ ,  $SD=7.46$ ) than for the pre-test sub-scale ( $M=64.42$ ,  $SD=13.45$ ). These differences were relatively minor ( $t(19)=2.81$ ,  $p<.011$ ), and the findings supported the prediction of Hypothesis 19 that the differences between the two tests are significant.

A closer look at the data, however, reveals a more complex discovery, one where students in different levels of grouping performed differently in the post-test. In general, the achievements for students from the three different levels showed positive improvements, that is, all of the students in different ability groups performed better in their second test. It was indicated that a greater level of progress was found for students in the lower level (intermediate level), while the level of progress in higher ability groups was not as significant as the lower ability groups.

The average pre-test scoring for the nine intermediate level classes (X1, X2, X3, X7, X9, X11, X13, X16, X17) was 47.95 while the average post-test scoring was 58.33, which was an improvement of 23.5%. In addition, the average scoring of the pre-test in the six higher-intermediate level classes (X4, X5, X10, X12, X15, X18) was 64.21, and the students in this group improved their results by 9.88% after their second test. For the students in the four advanced level class (X6, X8, X14, X19), the progress was found to be the smallest (3.5%) with the average scores of the pre-test and the post-test being 75.48

and 78.165 respectively. The findings of this study demonstrate a clear trend with regards to ability grouping in terms of student academic achievement. Students in the higher language level made a smaller degree of improvement than those in the lower level.

## **CHAPTER EIGHT**

### **DISCUSSION AND CONCLUSION**

#### **8.1 Overview**

Previous research studies on student language learning motivation have already shown a link between learner motivational beliefs and their academic achievement (Belenky& Nokes-Malach, 2012; Dornyei, 2001a, 2001b, 2005; Elliot, 2005; Pintrich, 2001; Pintrich and Schunk, 1996; Richey et al., 2014). However, these motivational variables concerned in these studies are based on a single motivation variable examining student learning. Currently, there have been only a few studies that have begun to investigate the effectiveness of integrating two or more motivational variables in order to have a better depiction of learner behaviour as well as their achievement. Due to the limited data, the present research aims to combine several motivational variables, which are frequently investigated in motivation research in order to examine student language learning. This chapter synthesizes the findings with the previous literature and further discusses the results in the present research. The implications for the future research are also discussed in this section, and it is followed by the discussion of the strengths and the limitation of this research.

#### **8.2 Discussion of motivational variables**

##### **8.2.1 Implication for Instrumentality Goals**

The findings of this research present several implications among Taiwanese college students in English learning classrooms. The results have provided evidence that some correlations were found between learner perception of ability grouping and the motivational variables. It is noted that instrumentality goal appears to have the most significant correlation with learner perception of ability grouping among all the ten motivational variables ( $r=.310$ ,  $p<.01$ ). Furthermore, it was found that students at the



higher ability groups (advanced group and higher intermediate level) experienced more in instrumentality goals than lower ability groups (intermediate level).

There appears to be little, definitive evidence of an inter-relation between instrumentality goal and its effectiveness in predicting academic achievement. Certain findings appear to demonstrate that the instrumentality goal is unable to predict the academic achievement, but this is contradicted by previous findings. For example, some research studies appear to indicate that instrumentality is able to predict academic achievement positively (DeVolder & Lens, 1982; Rostami et al., 2011), and yet further researchers have suggested instrumentality as a predictor to both extrinsic and intrinsic motivation (Miller, DeBacker, and Greene, 1999). In this study, the regression analysis showed that learner instrumentality did not significantly predict academic achievement (post-test scores) in ability grouping contexts among Taiwanese college students. Another implication in this study is that, there was no significant difference found among the three different ability groups of students for instrumentality. This suggests that the factor of learner English level does not have an influence on the perception of instrumental goal among Taiwanese college students. This finding does not support earlier research results that students can benefit from an ability grouping context (Kulik & Kulik, 1991).

In addition, the inspection of this study also revealed the inconsistencies that have been found in previous research studies with regard to instrumental orientation. Research findings from Dornyei (1990) suggested that students at intermediate level and below (beginner level) with higher level of instrumental orientation are more likely to attain the goals in language learning. However, the present study showed that students at higher ability levels (advanced and higher intermediate level) tended to experience more instrumental goal than their lower level contemporaries. As stated previously, the issues of the effectiveness of instrumentality should be investigated by future studies in attempt to understand whether only particular group can be beneficial and other groups may suffer from the label effect in ability grouping classes in a different context.

### **8.2.2 Implication for Achievement Goals**

The present research offers several implications of achievement goals among Taiwanese college students and subsequently challenges some popular features of achievement motivation. Firstly, the majority of students partaking in the survey were found to have high motivation across all four constructs of achievement goals. With regard to the findings conducted in Taiwan that showed students appear to pursue performance-approach goal (Cherng, 2003; Ho and Hau, 2008; Lau and Li, 2008), the current research reveals that students are more likely to emphasise a mastery-approach goal relative to three other constructs. These results provide further support together with previous research that the mastery-approach goal is positively correlated with all motivational variables and student achievement in Western culture (Diseth, 2011; Murayama, Elliot, & Yamagata, 2011; Roeser, 2004; Urdan & Mestas, 2006; Elliot and McGregor, 2001; Linenbrink, 2005; Pintrich 2000) and some studies in Taiwan (Shih, 2005, 2007). In particular, students at higher ability groups in the present study showed higher mean in this construct amongst all three levels. This result has supported that mastery-approach goal appears to be more prevalent among college students in Taiwan than other three motivation constructs. This implication suggests that for most college students in this study, to master English is far more important than to show others their capability in English learning. Another reason to explain this tendency may lie in the focus of Eastern collectivist values among students; that is, students are more likely to favour interdependence rather than performing better than their peers.

In addition, the research findings show a significant correlation between performance orientation (performance-approach and performance-avoidance) and all the nine motivational variables in this study. This finding suggests some consistencies that have been found in previous research studies concerning the relations between mastery and performance goals. For example, findings indicated that there was a correlation between mastery-approach and performance-approach, which were consistent with the works of Elliot and his colleagues (Elliot & Church, 1997; Elliot & Harackiewicz, 1996) specifically for college-age students. It is also noted that there was a significant correlation between student performance-approach goal and self-efficacy belief, which is also consistent with earlier works of Western culture (Diseth, 2011; Greene et al., 2004; Middleton & Midgley,

1997; Pajares et al., 2000; Wolters, Yu, and Pintrich, 1996), and of eastern Asian culture (Liem et al., 2008; Bong, 2001; Shih, 2005).

With regard to mastery orientation, present research findings show positive correlations between mastery orientations (mastery-approach and mastery-avoidance) and the other motivational variables except attribution theory (attribution of success and attribution of failure). As already stated, mastery-approach goals have been investigated in numerous studies; nevertheless, there were only a few studies about mastery-avoidance goals. It may be the reason that it was newly proposed and verified in recent research studies and some researchers are concerned whether it can be distinguished from other goals (Madjare, Kaplan, and Weinstock, 2011; Baranik et al., 2013; Pintrich, 2003). Another interesting finding is that students at different ability groups had higher level of mastery-avoidance goals than performance orientation goals (performance-approach and performance-avoidance), and more importantly in this study, mastery-avoidance was negatively associated with student post-test scores. These results indicated that student perception of mastery-avoidance goal is distinct from the other constructs in an ability grouping context. In addition, this finding is also consistent with the claims of previous research, suggesting that mastery-avoidance goals are more appropriate for college level students for the reason that students had developed enough skills and experience in English learning and tend to focus more on sharpening their own language ability rather than performing better than others in the group.

In addition to the correlations between the motivational variables, the present research aims to examine whether students in an ability grouping context would produce evidence predicting achievement in achievement goals like the earlier research findings (Meece et al., 2006; Wolter, 2004; Liem et al., 2008). A key finding with implications for achievement goal was shown in the result that all goal constructs fail to predict learner academic achievement in all three different levels (post-test scores). This suggests a couple of implications that ability grouping may be detrimental for Taiwanese college student achievement as well as the achievement goals, or the predictive value of achievement goals for learners' performance failed to be applied in an ability grouping context. Another implication to this result posits that a combined model of various motivational variables in a study could lead to a more complex result than simply examining one single variable, so

the researcher is not surprised to find little correspondence between this research and the previous research studies.

Overall, the study aimed to investigate the correlation between college student attitude, motivation, belief and achievement in an ability grouping in English learning, and there was no attempt to analyse the underlying contributions that cause the beliefs. Thus, it is suggested that subsequent studies of multiple beliefs patterns should include these analyses to get a better understanding whether integrating more models would be beneficial in an ability grouping context.

### **8.2.3 Implication for Self-Efficacy**

The perception of self-efficacy in this study examined student belief in self-ability in language learning and aims to relate it to their motivation of learning. Similar to achievement goal theory, previous research has showed that students at higher ability groups (advance and higher intermediate level) are found to have higher level of self-efficacy than the lower level peers (intermediate level). This indicates and was hypothesized in this study that students at lower level may relatively lack confidence in their capacity to accomplish the achievement-related tasks, such as to understand the difficult materials. Accordingly, this research study has found a difference between higher intermediate level and intermediate level among surveyed students. This shows the evidence that the hypothesis of whether the level of a learner determines or influences their motivation in language learning is correct. This finding has supported a positive relation between self-efficacy and academic ability, and it further indicates that ability grouping may have a detrimental effect on student perception of capacity belief in language learning.

In addition, earlier studies have supported that student perception of self-efficacy belief is one of the key factors that may influence their attitude and academic achievement (Zimmermann, 2000). In this study, the findings support the point that student self-efficacy is highly related to their attitude toward ability grouping context, and

subsequently it was found that self-efficacy had a significant correlation with all the other motivational variables. Another implication in the present research is that a significant correlation was found between self-efficacy and achievement goal. With respect to performance goal (including performance-approach and performance-avoidance), a finding worthy of noting concerns the prevalence rate of higher level of self-efficacy among higher-level groups (advanced and higher intermediate level). Meanwhile, students at lower level group showed different results; their level of self-efficacy rate appears to be lower than the level of performance-avoidance, suggesting that students at lower ability group may have less confidence to meet the goals in language learning. These findings are important to note for teachers and school in an ability grouping class.

Overall, this research study provides support for continuing to explore the belief of self-efficacy and its relationships with other motivation theories among college students in Taiwan. Considerable research on self-efficacy has proved that self-efficacy is significantly associated with student achievement more consistently than other motivational variables (Graham and Weiner, 1996; Multon, Brown and Lent, 1991). Self-efficacy was found to have high correlations with student outcome in earlier findings in Western culture. Nevertheless, the current results show inconsistencies with previous research findings in that self-efficacy in the present study did not predict student academic achievement. In this study, research results suggested that under the ability grouping learning context, the self-efficacy belief of college students could not predict their academic success in language learning. A plausible reason may be the label effect due to the ability-grouping context. That is, students in ability grouping classes appear to be less confident and have lower competence belief, particularly for those at a lower level comparing to a heterogeneous classroom comprised of students of different ability levels (Hall, 2014; Yu, 1994). Based on this reason, student perception of self-efficacy may be difficult to predict what their academic achievement will be under the ability-grouping context.

#### **8.2.4 Implication for Expectancy-value**

In order to examine the relation between motivational variables and students performance in an ability grouping context, this research hypothesized that students' achievement could be positively predicated by the expectancy-value. Subsequently, the findings of the present study show that students at all three ability groups have relatively higher perception of expectancy-value among all the motivational variables. Particularly in the higher-intermediate level group, student value belief was relatively higher than either the advanced or the intermediate level, and the distinctions between the three different groups in this study were found to support the previous works (Yoon, Eccles & Wigfield, 1996; Meece, Anderman & Anderman, 2006). The research findings echo the claims of earlier studies that students may value their belief differently based on their level.

Furthermore, the findings also show consistent characteristics with previous research that shows a positive relationship between expectancy-value and approach goals (Conley, 2012; Hulleman et al., 2008; Liem, Lau and Nie, 2008), and a positive relationship between expectancy-value and self-efficacy (Bong, 2001; Pintrich, 2000; Liem, Lau and Nie, 2008). This research has been supported to provide evidence that confirms earlier research findings that expectancy-value are positively related to some motivational variables, such as mastery-approach, performance-approach, and self-efficacy among Taiwanese college students in English learning classrooms. Based on the present results, it may be posited that Taiwanese college students tend to have stronger expectancy for success and task-value belief in language learning under an ability-grouping context. The results in the study not only align with previous research studies conducted in Taiwan (Chiu & Wang, 2008; Stigler et al., 1985), but also support studies conducted in a Western culture where there are differences between levels (Eccles et al., 1993; Durik et al., 2006; Wigfield and Eccles, 2002).

The most important implication in this study is that, expectancy-value positively predicted student academic achievement. This finding has supported reports from earlier research studies that student expectancy of success in learning and the value they attached on the language learning are potential key factors underpinning their success in academic

performance. This finding suggests language teachers in an ability-grouping context could help improve student belief in their competence and the value towards the task in order to help achieve student goals.

### **8.2.5 Implication for Attribution theory**

Attribution in this study was included as the representation of one's belief for the reason why the outcomes of students' learning were based on their belief about their abilities, effort, task difficulties, or luck. Unlike other motivational variables, the present study found that students at lower ability group had higher level of perception in attribution of failure than their higher level peers. For example, students at intermediate level appear to believe that their ability and the task difficulties are the factors that caused their failure in English learning, but would associate their success to more selfless reasons. That is to say, lower achievers in Taiwan are more likely to find an excuse for their success and/or failure in learning rather than to have accepted they have mastered the skills required, reached an appropriately set level. In addition, it is worth noting that students at higher level tend to contribute their achievement in learning to the ability they had and to the efforts they made. Furthermore, the finding showed higher mean value in attribution of failure among three different level groups. It may be that most students in Taiwan would not think their learning was successful even if they received good grades in class; thus, they would attribute their learning outcomes more to failure rather than success. These findings provided support for previous research studies on attribution theory that higher achievers are more likely to attribute their success to ability and effort (Bempechat, Graham & Jimenez, 1999; Hsieh, 2004; Schunk, 1981, 1994).

Another implication for theory and practice was in the comparison between attribution theory and other motivational variables. Firstly, there was a significant correlation between self-efficacy and the type of attributions students made. One who has high self-efficacy would have more confidence in their capabilities to approach the task and furthermore to achieve the goal. Hence, it is suggested that students with higher level of self-efficacy are

more likely to attribute their achievement behaviour to their abilities and efforts rather than their luck. The result in this research has shed light on the previous research studies about whether a significant relationship can be discovered between student self-efficacy beliefs and attributions. This research findings show a positive correlation between self-efficacy and student belief in ability and effort while a negative correlation was found between self-efficacy and student belief in their luck and the task difficulties. Thus, the findings have provided enough evidence for previous attribution research in academic performance to support it (Bond et al, 2001; Lane & Lane, 2001), and in a foreign language learning context (Hsieh, 2004). Secondly, attribution was found to have an inter-correlation with performance goals. That is, the findings showed that attribution was negatively related to student performance-approach but positively related to performance-avoidance. Students with higher performance goals appear to demonstrate their capability rather than to develop mastery in learning, and these students have higher tendency to make attribution of their success and/or failure to specific reasons, such as they believed their good marks is because of luck. Thirdly, a significant relationship was found between self-regulation and attribution. Unsurprisingly, this indicates that students who have higher self-regulatory strategies are more likely to self-reflect themselves for the reasons of their success and/or failure for their learning.

Furthermore, findings supported those from previous studies on gender differences in attribution theory in foreign language learning (Hsieh, 2004). In this study, male students in this study attributed outcome to efforts, while female students attributed their success to their ability. Female, self-efficacy beliefs were also higher than their male classmates. The findings provide evidence that females with higher level of self-efficacy also believed that their success in learning was due to their ability and this is different from the reasons proposed by males in the study. This suggests that female students are more likely to benefit from an ability grouping context language classroom than male students.



### **8.2.6 Implication for Self-regulation**

As reported in previous studies on self-regulation, students at lower levels may experience lower level of self-regulation (Chularut and Debacker, 2004), it may be the reason that a lower achiever will have no chance to observe their higher achieving peers. It is noted that the results from the present study show students at lower level groups (higher intermediate level and intermediate level) have higher level of self-regulation compared to students in higher ability group (advanced level). On the other hand, students at higher level were found to have lower level of self-regulation, and this may be because students with a good level of ability in language would spend less of their time and effort on the course they were good at. In addition, there was no difference found between student levels, which suggested that student perception of self-regulation learning would not be influenced in ability grouping classes. Furthermore, it is not surprising that the results of student perception of self-regulation revealed a significant difference between female students and male students; that is, females are more likely to regulate themselves to sustain the goal of language learning compared to their male counterparts.

As indicated in previous research findings, some research examining the relationship between achievement goal theory and self-efficacy theory has suggested a positive relation between student mastery approach and their self-efficacy belief (Liem, Lau and Nie, 2008), while some research suggested a positive and significant relations between student self-efficacy and their perception of self-regulation (Conley, 2012; Miserandino, 1996). As indicated in previous works on self-regulation, it was found that students who have higher capabilities to perform the task are more likely to report higher self-regulation. It is noted that students, self-regulation ratings are significantly and positively related with all the other motivational variables in this study, which further indicates stronger correlations with both mastery approach goal and self-efficacy. The findings were analogous to the results of earlier research findings in self-regulation (Chularut and Debacker, 2004; Kuo, 2010; Middleton and Midgley, 1997). In addition, positive relations were found between student's self-regulation (e.g. efforts to learn) and their motivational inclination (e.g. valuing of task) to learn, which support the existing research that self-regulated learners are highly motivated to learn when they consider learning tasks as useful, valuable and helpful (Boekaerts, 2002; Pintrich, 2000; Schunk, 2001; Wigfield, 1994). Furthermore, this study

also contributes to literature that student perception of ability grouping is related to self-regulation and self-efficacy among college students, which is consistent finding with earlier works (Chularut and DeBacker, 2004; Rostami et al., 2011).

According to this finding of positive relationships with other motivational variables, it seems that student perception of self-regulation is one of the key factors to trigger their motivation to learn English, and furthermore to succeed in learning. Altogether, it is reasonable to examine these correlations among the motivation beliefs for the reason that it is possible for students to achieve a better outcome, and to improve the process to attain the goals.

### **8.3 Implication for ability grouping**

Based on the present findings, student perception of ability grouping was highly related to all the motivational variables excluding attribution of success and attribution of failure goals. It indicates further that student attitudes towards ability grouping would influence their motivation beliefs at all three levels. In addition, there have been differences encountered at different levels. For example, present findings report that among advanced and higher intermediate students, their perception of ability grouping is relatively higher than their lower ability peers (intermediate level). This suggests a less positive attitude in ability grouping among low-level students than their higher-level peers.

One of the primary focuses of this research was to examine whether ability grouping is beneficial for language learning classrooms among college students in Taiwan. The majority of the students surveyed in this study agree that ability grouping is helpful for the reason that they can understand more about teacher instruction and it helps them build more confidence to speak with classmates of similar ability. It is also noteworthy that in the perception of ability grouping, advanced students agree more on the efficiency of learning language and further agree that interest in English learning deepened in an ability grouping class than when compared to the higher intermediate and intermediate level students. On the other hand, students at lower level groups, such as higher-intermediate

and intermediate, appear to have more confidence to talk to classmates at the same level, while their higher level peers show different results that they felt less confident and anxious to talk to classmates of similar high level ability. These research findings have supported previous research studies that students at higher level may experience a decline in the perception of their confidence and may be less satisfied with themselves when grouped with other students of similar abilities (Kulik, 1992; Liu, 2008). This may be the reason to explain why students at high level (advanced class) were found to have the smallest rate of progress in the post-test results.

In addition, previous literature has provided a considerable number of evidence that student attitude towards learning was highly related to their achievement and could be viewed as a major predictor of outcomes (Masgoret and Gardner, 2003; Sharan, 1980; Tremblay and Gardner, 1995; Reynolds and Walberg, 1992). No research studies have examined Taiwanese student language performance in an ability-grouping context and this study has shown that lower achievers with better attitudes towards learning English would result in a greater rate of achievement and further, better academic outcomes.

However, there is no research investigating whether student attitudes toward ability-grouping can predict their academic achievement. However, the regression analysis did not support the hypothesis that learner perception of ability-grouping is related to their academic outcomes. A closer inspection of the factors that enabled the success in language learning in this study seem to suggest that student level and their pre-test performance are the keys to predict achievement in an one-year English class in Taiwan. The research findings showed that motivation did not predict achievement demonstrated further that most of the selected motivation beliefs were not significant enough to influence the results. There may be few implications for the current situation, but the main consideration for Taiwanese students could be the value they hold in English learning. That is, English is not the focal subject in the college compared to their high school period, and they would spend less time to prepare for this subject than other courses.

As indicated in the introduction, ability grouping has become an inevitable practice in most college language classroom in Taiwan. Student attitudes toward ability-grouping were found to have an influence on their motivation beliefs, which has been suggested as the trigger to learn a foreign language. In addition, current research has focused on whether students at different levels may have different expectancies, values and goals in learning (Mantle, 2013). Many researchers have supported that ability grouping can affect students beliefs about they capability as well as their motivation (Boyer, 1983; Kerble, 1988). One of the goals of this study is to highlight the relations between student perception of ability grouping and their motivational belief. Thus, it is important for language teachers in ability-grouping classes to have an understanding of student abilities, beliefs and goals in order to adapt a more appropriate method, context and content of instruction to meet student needs. It can be more beneficial and efficient with careful planning for both teachers and students in an ability-grouping context to a language learning classroom.

#### **8.4 Limitations and suggestions for further studies**

There are several limitations noted in this study that should be understood when interpreting the results. One limitation regarding the methodology design, the correlation data used in this study to explain the relations between different motivational variables fails to allow researcher to understand the causal direction of influence. In order to shed light on the causal relations, a possible suggestion could be to adopt either a longitudinal design that involves data collection across different years or collecting data across different school types. However, when considering the general college English course for most universities in Taiwan is a one-year course, it would be impractical for researchers to collect the data across different years. Thus, future robust studies within a Taiwan-specific context may need to increase the variety of the sample across different schools (private universities, nursing schools, and private university of technology).

Secondly, the present study is applicable to the first year undergraduates of a single public university in the context of English learning. The findings can be used to interpret students

at the same school type (public university) and at the same level, but the findings should not generalise other types of schools and different levels, or in the context of other subjects. It is because the sample is from one single public university, with higher level of English ability than most private universities. Thus, extending these findings to different school types should be carried out in the future studies. In addition, the primary focus of this study is to examine whether ability-grouping is beneficial or detrimental for language classrooms for college students. It is important to include not just the changes of student academic achievement but also their motivational beliefs. That is, further studies can survey student motivation at the beginning of the class, and then run a survey again at the end of the semester to observe whether their beliefs, motivations and their academic achievement change accordingly.

## **8.5 Conclusion**

As suggested in previous studies of social-cognitive theories that considering various motivational beliefs is helpful to understand better student motivation and shape further the academic achievement than any single variable (Conley, 2012; Lampkins-Uthando, 2014; Liem et al., 2008; Hulleman et al., 2010; Pintrich, 2000; Wigfield & Eccles, 2005). In order to identify a more optimal motivational construct, the present study explored student beliefs, motivations, and achievement in English learning by adopting a combination of expectancy-value, achievement goals, self-efficacy, attributions, instrumentality, and self-regulation. The study explored further student perception of ability-grouping on their motivations and their achievement. To date, this is the only study to investigate the effectiveness of ability grouping classes in English learning from the relations of student attitudes and their motivation beliefs.

There are several theoretical implications for the research findings. Firstly, the results in this study suggested that expectancy-value goals play a beneficial role in predicting college student achievement in English learning. Thus, this result demonstrates to teachers a number of implications to help students develop their expectancies for success in language

learning. As Schunk et al (2008) suggested that teachers can help students develop their perception of competence and further maintain their expectancies by providing accurate feedback on time, assigning proper and challenging tasks, and fostering positive beliefs that their competence is controllable. Secondly, students at higher ability groups are more likely to prefer this kind of class setting and tend to have higher means in various motivational beliefs whilst their lower level contemporaries with a lower preference in ability-grouping settings tend to adopt performance-avoidance, and attributions in their own learning.

An interesting finding was that relative to high-achieving peers, lower ability group students actually progressed more in their achievement (post-test) and this was despite having a lower level of motivational beliefs. The findings responds to the primary research focus which was to decipher whether or not ability-grouping is detrimental or beneficial in an English learning context. The study provides not only student perception towards ability-grouping classes at three different levels and their motivational beliefs in learning, but also their academic achievement for teachers and administration to make the necessary adjustments and amendments to the instruction and policy.

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## Appendix A

### Pilot Questionnaire

This questionnaire is designed to observe your experience and opinions about **English learning motivation**, and there are no ‘right’ or ‘wrong’ answers. All questionnaires are completely anonymous. Thank you very much for your help.

#### Section 1: General Information

1. Age \_\_\_\_\_
2. Select your Gender    ☐ Male    ☐ Female
3. Major \_\_\_\_\_
4. Select your level of English class    ☐ Advance ☐ Higher Intermediate ☐ Intermediate

#### Section 2: In your opinion, how true are the following factors to your English-learning progress?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1. I'm confident I can do an excellent job on the assignments and tests in this course.	1	2	3	4	5
2. I feel learning English may be helpful for my future career.	1	2	3	4	5
3. My aim is to perform well relative to other students.	1	2	3	4	5
4. I want to speak English fairly fluently.	1	2	3	4	5
5. My aim is to completely master the material presented in this class.	1	2	3	4	5
6. I'm certain I can master the skills being taught in this class	1	2	3	4	5
7. I want to receive to grade of 'A' from the class.	1	2	3	4	5
8. I am striving to avoid performing worse than others.	1	2	3	4	5
9. I want to learn about another culture to understand the world better.	1	2	3	4	5
10. My aim is to avoid learning less than I possibly could.	1	2	3	4	5
11. My goal is to avoid performing poorly compared to others	1	2	3	4	5
12. It may make me a more qualified job candidate.	1	2	3	4	5
13. I get good mark on the test due to the fact that test was easy.	1	2	3	4	5
14. I'm confident I can understand the basic concepts taught in this course.	1	2	3	4	5
15. I get good mark on the test due to good luck on my part.	1	2	3	4	5
16. I want to be able to converse with English speaker when I travel abroad.	1	2	3	4	5

17. I get good mark on the test due to my trying really hard.	1	2	3	4	5
18. I want to better understand English people and their way of thinking.	1	2	3	4	5
19. I am striving to understand the content of this course as thoroughly as possible.	1	2	3	4	5
20. I am striving to avoid an incomplete understanding of the course material.	1	2	3	4	5
21. I get good mark on the test due to the fact that I'm smart in this subject.	1	2	3	4	5
22. I'm certain I can understand the most difficult material presented in the readings for this course if I try	1	2	3	4	5
23. I get poor mark on the test because I am not trying really hard.	1	2	3	4	5
24. I get poor mark on the test due to the fact that test was too difficult.	1	2	3	4	5
25. I want to communicate with English speakers in basic English language.	1	2	3	4	5
26. My goal is to perform better than the other students.	1	2	3	4	5
27. I get poor mark on the test due to the fact that I had bad luck on this test.	1	2	3	4	5
28. My goal is to learn as much as possible.	1	2	3	4	5
29. I am striving to do well compared to other students.	1	2	3	4	5
30. I want to learn more about English culture and custom.	1	2	3	4	5
31. My goal is to avoid learning less than it is possible to learn.	1	2	3	4	5
32. I get poor mark on the test because I am not smart enough in this subject.	1	2	3	4	5
33. My aim is to avoid doing worse than other students.	1	2	3	4	5
34. I believe I will receive an excellent grade in this class.	1	2	3	4	5
35. My learning is more efficient in an ability grouping class.	1	2	3	4	5
36. I can understand more about what teacher taught in an ability grouping class.	1	2	3	4	5
37. I got more interests to learn English in an ability grouping class.	1	2	3	4	5
38. I have more confident to talk to classmates from the same level in an ability grouping class.	1	2	3	4	5
39. I can perform better in an ability grouping class.	1	2	3	4	5
40. I ask myself questions to make sure I know the material I have been studying.	1	2	3	4	5
41. I work on practice exercises and answer end of chapter questions even when I don't have to.	1	2	3	4	5
42. Even when study materials are dull and uninteresting, I keep working until I finish.	1	2	3	4	5
43. Before I begin studying I think about the things I will need to do to learn.	1	2	3	4	5
44. When I'm reading I stop once in a while and go over what I have read.	1	2	3	4	5
45. I work hard to get a good grade even when I don't like a class.	1	2	3	4	5



## Appendix B

### Main Study Questionnaire

This questionnaire is designed to observe your experience and opinions about **English learning motivation**, and there are no ‘right’ or ‘wrong’ answers. All questionnaires are completely anonymous. Thank you very much for your help.

#### Section 1: General Information

1. Age \_\_\_\_\_
2. Select your Gender    ☐ Male    ☐ Female
3. Major \_\_\_\_\_
4. Select your level of English class    ☐ Advance ☐ Higher Intermediate ☐ Intermediate
5. What is your scores of College Entrance Examination \_\_\_\_\_

#### Section 2: In your opinion, how true are the following factors to your English-learning progress?

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1. I'm confident I can do an excellent job on the assignments and tests in this course.	1	2	3	4	5
2. I feel learning English may be helpful for my future career.	1	2	3	4	5
3. My aim is to perform well relative to other students.	1	2	3	4	5
4. I want to speak English fairly fluently.	1	2	3	4	5
5. My aim is to completely master the material presented in this class.	1	2	3	4	5
6. I'm certain I can master the skills being taught in this class	1	2	3	4	5
7. I want to receive to grade of 'A' from the class.	1	2	3	4	5
8. I am striving to avoid performing worse than others.	1	2	3	4	5
9. I want to learn about another culture to understand the world better.	1	2	3	4	5
10. My aim is to avoid learning less than I possibly could.	1	2	3	4	5
11. My goal is to avoid performing poorly compared to others	1	2	3	4	5
12. It may make me a more qualified job candidate.	1	2	3	4	5
13. I get good mark on the test due to the fact that test was easy.	1	2	3	4	5
14. I'm confident I can understand the basic concepts taught in this course.	1	2	3	4	5
15. I want to be able to converse with English speaker when I travel	1	2	3	4	5

abroad.					
16. I get good mark on the test due to my trying really hard.	1	2	3	4	5
17. I want to better understand English people and their way of thinking.	1	2	3	4	5
18. I am striving to understand the content of this course as thoroughly as possible.	1	2	3	4	5
19. I am striving to avoid an incomplete understanding of the course material.	1	2	3	4	5
20. I get good mark on the test due to the fact that I'm smart in this subject.	1	2	3	4	5
21. I'm certain I can understand the most difficult material presented in the readings for this course if I try	1	2	3	4	5
22. I get poor mark on the test due to the fact that test was too difficult.	1	2	3	4	5
23. I want to communicate with English speakers in basic English language.	1	2	3	4	5
24. My goal is to perform better than the other students.	1	2	3	4	5
25. I get poor mark on the test due to the fact that I had bad luck on this test.	1	2	3	4	5
26. My goal is to learn as much as possible.	1	2	3	4	5
27. I am striving to do well compared to other students.	1	2	3	4	5
28. I want to learn more about English culture and custom.	1	2	3	4	5
29. My goal is to avoid learning less than it is possible to learn.	1	2	3	4	5
30. I get poor mark on the test because I am not smart enough in this subject.	1	2	3	4	5
31. My aim is to avoid doing worse than other students.	1	2	3	4	5
32. I believe I will receive an excellent grade in this class.	1	2	3	4	5
33. My learning is more efficient in an ability grouping class.	1	2	3	4	5
34. I can understand more about what teacher taught in an ability grouping class.	1	2	3	4	5
35. I got more interests to learn English in an ability grouping class.	1	2	3	4	5
36. I have more confident to talk to classmates from the same level in an ability grouping class.	1	2	3	4	5
37. I can perform better in an ability grouping class.	1	2	3	4	5
38. I ask myself questions to make sure I know the material I have been studying.	1	2	3	4	5
39. I work on practice exercises and answer end of chapter questions even when I don't have to.	1	2	3	4	5
40. Even when study materials are dull and uninteresting, I keep working until I finish.	1	2	3	4	5
41. Before I begin studying I think about the things I will need to do to learn.	1	2	3	4	5
42. When I'm reading I stop once in a while and go over what I have read.	1	2	3	4	5
43. I work hard to get a good grade even when I don't like a class.	1	2	3	4	5

## Chinese Version of Questionnaire

這份問卷旨在調查你對英語學習動機的經驗及意見。你的意見將提供本問卷使用，僅供學術參考。此外，此問卷的問題沒有確切的答案而且沒有對錯之分別。問卷將採不記名方式，所有的資料非經受訪者同意絕對不會對外公開。感謝你的協助。

### 第一部分：個人資料

1. 年紀 \_\_\_\_\_
2. 性別 ☐ 男性 ☐ 女性
3. 系別 \_\_\_\_\_
4. 你的英文編班程度 ☐ 進階 ☐ 中高級 ☐ 中級
5. 入學考試 指考成績 \_\_\_\_\_ (亦或學測成績 \_\_\_\_\_)

第二部分：下列各題請依據你的英語學習狀況與直覺判斷，選擇你同意或不同意的程度，圈選數字1-5。 1=非常不同意 2=不同意 3=既非不同意或同意 4=同意 5= 非常同意

	非常不同意	不同意	既非不同意或同意	同意	非常同意
1. 我有自信我這門課的作業及考試都可以做得很好	1	2	3	4	5
2. 我覺得學英文對我未來的工作是有幫助的	1	2	3	4	5
3. 與其他同學相比，我在這門課的目標是要表現良好	1	2	3	4	5
4. 我希望能說一口相當流利的英文	1	2	3	4	5
5. 我的目標是要完全熟悉這門課所提供的教材	1	2	3	4	5
6. 我確信我可以精通這門課所教的知識技能	1	2	3	4	5
7. 我希望這門課我可以拿到 90 分	1	2	3	4	5
8. 在這門課，我努力避免表現比其他同學糟	1	2	3	4	5
9. 我學英文是因為我想學其他國家文化及更了解世界	1	2	3	4	5
10. 我這門課盡可能避免學得比我能力可及的少	1	2	3	4	5
11. 相較於其他同學，我的目標是要避免表現比較差	1	2	3	4	5
12. 學習英文可以使我在求職中能更符合資格	1	2	3	4	5
13. 我這門課取得高分是因為測驗很簡單	1	2	3	4	5
14. 我有自信我可以了解這門課所教的基本觀念	1	2	3	4	5
15. 我學英文是因為我出國可以溝通	1	2	3	4	5
16. 我這門課取得高分是因為我很用功	1	2	3	4	5
17. 我學英文是因為我想要更加了解英語系國家的人思考	1	2	3	4	5

方式					
18. 我會盡力去瞭解這門課的內容	1	2	3	4	5
19. 在這門課，我努力去避免對這門課的教材一知半解	1	2	3	4	5
20. 我這門課取得高分是因為我很擅長這門學科	1	2	3	4	5
21. 我確信只要我嘗試我可以了解這門課最難的部分	1	2	3	4	5
22. 我這門課取得低分是因為測驗很困難	1	2	3	4	5
23. 我想有基本的英文能力跟英語系國家的人溝通	1	2	3	4	5
24. 我在這門課的目標是要表現比其他同學好	1	2	3	4	5
25. 我這門課取得低分是因為我考試運氣不好	1	2	3	4	5
26. 我這門課是要儘可能的學越多越好	1	2	3	4	5
27. 比起其他同學，我會盡可能努力地求表現	1	2	3	4	5
28. 我學英文是因為我想要學英文文化及風俗	1	2	3	4	5
29. 在這門課，我避免學得比課程所教的更少	1	2	3	4	5
30. 我這門課取得低分是因為我不擅長這門學科	1	2	3	4	5
31. 我這門課的目標是要避免表現比其他同學差	1	2	3	4	5
32. 我相信我這門課會得到高分	1	2	3	4	5
33. 我會自我檢測來確認已了解所學過的教材	1	2	3	4	5
<b>34. 能力分班上課的影響</b>					
35. 能力分班教學可以提升我英文學習的成效	1	2	3	4	5
36. 我在分班課程上可以比較聽得懂老師所教的內容	1	2	3	4	5
37. 能力分班讓我對英文學習更有興趣	1	2	3	4	5
38. 跟相同程度的同學用英文溝通，我會比較有信心	1	2	3	4	5
39. 我在能力分班會表現比較好	1	2	3	4	5
<b>40. 英語學習自我檢測</b>					
41. 我總是會做課後練習題即使沒必要這麼做	1	2	3	4	5
42. 即使課本內容無聊我還是會持續練習到完成	1	2	3	4	5
43. 在開始念書前，我會先把需要學習的東西先想一遍.	1	2	3	4	5
44. 在念書的一個段落，我會先停下來在習一下剛剛所學的	1	2	3	4	5
45. 我會盡我的可能取得高分即使我不喜歡這門課	1	2	3	4	5

## Appendix C

### Results Tables

	1	2	3	4	5	6	7	8	9
AS TK	1								
AS LK	.045	1							
AS EF	.155**	-.021	1						
AS AB	.403**	-.078*	.373**	1					
AF EF	.156**	.144**	-.070	.026	1				
AF TK	-.133**	.276**	.006	-.110**	.221**	1			
AF LK	.071	.268**	.058	.070	.022	.353**	1		
AF AB	-.170**	.320**	-.112**	-.328**	.154**	.456**	.307**	1	
SEEF (self-efficacy)	.463**	-.138**	.463**	.627**	.100**	-.188**	-.056	-.342**	1

Correlation is significant at the 0.01 level (2-tailed). \*\*

ASTK. Attribution of success: I get good mark on the test due to the fact that test was easy.

ASLK. Attribution of success: I get good mark on the test due to good luck on my part.

ASAB. Attribution of success: I get good mark on the test due to the fact that I'm smart in this subject.

ASEF. Attribution of success: I get good mark on the test due to my trying really hard

AFEF. Attribution of failure: I get poor mark on the test because I am not trying really hard.

AFTK. Attribution of failure: I get poor mark on the test due to the fact that test was too difficult.

AFLK. Attribution of failure: I get poor mark on the test due to the fact that I had bad luck on this test.

AFAB. Attribution of failure: I get poor mark on the test because I am not smart enough in this subject.